



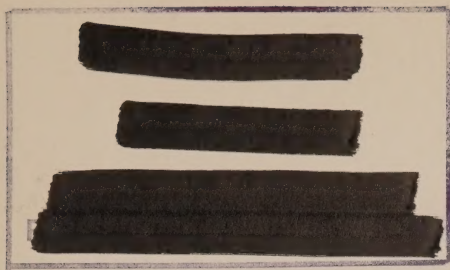
CANADA YEAR BOOK 1968

THE LIBRARY

The Ontario Institute
for Studies in Education

Toronto, Canada







Digitized by the Internet Archive
in 2023 with funding from
University of Toronto

<https://archive.org/details/39250915020065>



A winter view of Canada's Houses of Parliament through the iron tracery of the central gate.



CANADA YEAR BOOK 1968

OFFICIAL STATISTICAL ANNUAL
OF THE RESOURCES, HISTORY,
INSTITUTIONS AND SOCIAL AND
ECONOMIC CONDITIONS OF
CANADA

*Published by Authority of the
Minister of Trade and Commerce*

DOMINION BUREAU OF STATISTICS
CANADA YEAR BOOK DIVISION

© Crown Copyrights reserved
Available by mail from the Queen's Printer, Ottawa,
and at the following Canadian Government bookshops:

HALIFAX
1735 Barrington Street

MONTREAL
Æterna-Vie Building, 1182 St. Catherine Street West

OTTAWA
Daly Building, Corner Mackenzie and Rideau

TORONTO
221 Yonge Street

WINNIPEG
Mall Center Building, 499 Portage Avenue

VANCOUVER
657 Granville Street

or through your bookseller

A deposit copy of this publication is also available
for reference in public libraries across Canada

Price: (cloth-bound) \$6.00 Catalogue No. CS 11-202/1968
(paper-bound) \$4.00 Catalogue No. CS 11-205/1968

ROGER DUHAMEL, F.R.S.C.
Queen's Printer and Controller of Stationery
Ottawa, Canada
1968

PREFACE

The 1968 edition of the Canada Year Book continues a series of annual publications giving authoritative statistical and other information on almost every measurable phase of Canada's development. Marking the fiftieth anniversary of the establishment of the Dominion Bureau of Statistics, the history and current functions of the Bureau in collecting, tabulating, analysing and publishing the growing mass of detailed data required by governments, industry and society in general in the day-to-day conduct of the private and public business of the country are outlined in the introductory section of this volume (pp. v to xi). The Canada Year Book has, through the years, summarized the statistical data made available by the Bureau and presented it along with legislative and other pertinent information to give concisely, within the covers of one volume, the story of Canada's economic progress.

Each chapter of the Year Book contains the latest information procurable at the time of printing, the emphasis changing with developments and interest in the field covered and new material added where available. Change has become the order of the day, and the current edition covers such major legislative revisions as those that have taken place in Canada's immigration policy, in the administration of broadcasting, in the Criminal Code and in the Bank Act. Included also are special feature articles or specially prepared chapter material on "Archaeology in Canada" (pp. 20-29), "Animal Life in Canada Today" (pp. 47-60), the historical and current administration of the Yukon Territory and the Northwest Territories (pp. 110-116), "Technology, Markets and Costs in Manufacturing" (pp. 689-694), and "Canada's International Trade After the Kennedy Round of Trade Negotiations" (pp. 946-954). The list of "Books About Canada" in Chapter XXVII has been revised to include the unusually large number of important writings that were published during Canada's Centennial Year. A 140-mile-to-the-inch political map of Canada is inserted in a back-cover pocket.

The volume was produced in the Canada Year Book Division by Miss Margaret Pink, Assistant Director, and the Year Book staff under the editorship and direction of Dr. C. C. Lingard, Director of the Division. The charts and maps, except where otherwise indicated, were prepared by or under the direction of L. Tessier of the Drafting Unit. Credits for other photographic illustrations used throughout the publication are listed on p. xiv.

The co-operation of numerous officials of the various Departments of the Federal and Provincial Governments and of this Bureau in the preparation of material for the Year Book is gratefully acknowledged. Credit by means of footnotes is given where possible, either to the persons or to the public service concerned.

Harold G. Duffett.

DOMINION STATISTICIAN

DOMINION BUREAU OF STATISTICS,
OTTAWA, APRIL 1968



The Dominion Bureau of Statistics Building now houses only part of the Bureau's staff, the number of employees having grown from 1,500 in the early 1950s, when the building was constructed, to more than 2,800 in 1968.



Walter E. Duffett, the present Dominion Statistician, with his immediate predecessor, Herbert Marshall, who held the post from 1945 until 1957.

The Dominion Bureau of Statistics 1918-1968

Because the Canada Year Book is basically a statistical publication, it is appropriate that the 1968 issue should mark the fiftieth anniversary of the Dominion Bureau of Statistics and provide some indication of the significance of statistical development in Canada in the past fifty years. Although the history of Canadian statistics goes back much farther, the year 1918 and the passing of the Statistics Act mark a basic turning point. The Act established the foundation for the co-ordinated and integrated statistical system which exists at present.

The statistical antecedents of the Bureau of Statistics extended back to Intendant Jean Talon's 1666-67 enumeration of persons, areas under cultivation, and livestock in the St. Lawrence colony of New France — an enumeration renowned as the first systematic census of modern times and model for thirty-six subsequent censuses during the French régime. Later, partly because the English-speaking colonies that originated in the Loyalist migrations were isolated from one another, census-taking was generally intermittent and lacking in comparability until well into the 19th century. However, by the 1840s the concept of a regular decennial census gained support and the Provinces of United Canada, Nova Scotia, New Brunswick and Prince Edward Island each took censuses in 1851, thereby initiating, even in pre-Confederation times, the first of the long series of decennial enumerations conducted on a broad geographical basis.

Most of the Bureau's statistical data is now processed on three large computer systems.



Since the United Province of Canada was the predominant partner in the Canadian Confederation of 1867 and since in its division of legislative powers the British North America Act allocated "the Census and Statistics" to the jurisdiction of the Federal Government, it was natural that the first attempts at the organization of statistical machinery on a national basis should evolve around the Province of Canada's Board of Registration and Statistics, set up in 1847.

Despite the achievement of Confederation in the political sphere, the development of a co-ordinated comprehensive system of general statistics adequate to the needs of the new transcontinental federation was delayed for half a century. Although Canada's Census Commissioner, Dr. J. C. Taché, brought together in Volume IV of the Census of 1871 an invaluable summary of all the preceding censuses over a period of more than two centuries, and Parliament passed a new Census and Statistics Act in 1879 providing for the taking of a census in 1881 and every tenth year thereafter and for the making of regulations concerning the collecting and publishing of vital, agricultural, commercial, criminal and other statistics, the establishment under the Ministry of Agriculture of a permanent Census and Statistics Office in 1905 constituted the first step toward the combination of census and other statistical data into a co-ordinated statistical system for the whole country. The statistical work then being performed in government departments was characterized by frequent overlapping, by some duplication on the part of both federal and provincial departments and by great gaps and lack of uniformity in coverage. Indeed, the existence of these inadequacies was confirmed through an inquiry conducted in 1912 by the Departmental Commission on the Official Statistics of Canada, comprised of representatives from the Civil Service Commission, the Census and Statistics Office, and the Departments of Trade and Commerce, of Labour, and of Customs. The Commission, in its report, recommended the organization of a Central Statistical Office for the co-ordination, unification, extension and general improvement of statistics, and the taking of a quinquennial census. It recommended a thorough examination of methods currently in use in collecting and compiling data, the institution of an annual census of production (embracing the chief products of agriculture, forestry, fisheries, mining and manufactures), the co-ordination of the work of the statistical branches of the Departments of Customs and Trade and Commerce, the reorganization of canal statistics and the creation of statistics of coastal trade, the creation of wage and consumption statistics, improvement in the statistics of insurance, the development of price statistics, the enlargement of the Canada Year Book, and, in the provincial sphere, the co-ordination of statistics of births, marriages and deaths, public health, education, agriculture, local and municipal governments, industrial accidents, various phases of production, finance, public lands, public works, hospitals and charities.

The first step in the implementation of the report of the Commission was the appointment in 1915 of R. H. Coats to the office of Dominion Statistician and his assumption of responsibility for devising a practical scheme for the organization of a central Canadian statistical office. Three years later, after minute examination of the statistical field by the Dominion Statistician and after discussions and conferences with federal and provincial departmental officials, the Statistics Act, 1918 was passed by

Parliament, creating the Dominion Bureau of Statistics. As since amended, the Statistics Act now reads, in part:—

There shall be a Bureau under the Minister, to be called the Dominion Bureau of Statistics, the duties of which are

*to collect, compile, analyse, abstract and publish statistical information relative to the commercial, industrial, financial, social, economic and general activities and condition of the people ;
to collaborate with all other departments of the government in the collection, compilation and publication of statistical records of administration according to any regulations ;
to take the census of Canada ; and
generally to organize a scheme of co-ordinated social and economic statistics pertaining to the whole of Canada and to each of the provinces thereof.*

*The Governor in Council may appoint an officer called the Dominion Statistician to hold office during pleasure, whose duties are, under the direction of the Minister,
to advise on all matters pertaining to statistical policy and to confer with the several departments of government to that end ;
to organize and maintain a scheme of co-operation in the collection, classification and publication of statistics as between the several departments of government ;
to supervise generally the administration of this Act and to control the operations and staff of the Bureau ; and
to report annually to the Minister with regard to the work of the Bureau during the preceding year.*

The first three years of DBS were highly significant, with the reorganization, co-ordination and unification of a nation-wide system of social and economic statistics and served to emphasize the fundamental purpose, the wide scope, and the significant character of the Bureau's work and, incidentally, provided the backdrop to the following sketch, in briefest form, of developments that highlighted its program and achievements during the next two or three decades.

- *Upon the transfer of the Census and Statistics Office from the Department of Agriculture to the Bureau, the Census — both decennial and quinquennial — was reorganized.*
- *A national scheme of vital statistics was established by encouraging the provinces to enact uniform legislation, adopt uniform administrative procedures, use standard forms issued by the Bureau, and supply the latter with transcripts of original returns.*
- *The monthly and annual statistics of agriculture were brought under joint operation of the Bureau and the nine provincial governments, improving the data and eliminating much duplication of work. Among the features were the annual census of acreages under field crops and livestock on farms carried out with the co-operation of the rural schools, the pooling of monthly data on crop conditions, etc.*
- *The statistics of fisheries, mines, forestry, dairying, central water and electric power, and general manufactures were unified and, after consultation with some 35 Canadian trade and industrial associations, placed on an annual "Industrial Census" basis in co-operation with the federal and provincial departments concerned, thereby bringing*

into harmony the statistical activities of over 30 departments and, in conjunction with agricultural statistics, providing more comprehensive and up-to-date information on all phases of production. This was, and remains, one of the few annual censuses of industry undertaken in any country.

- The statistics of external trade (exports and imports) and of transportation and communications were completely remodelled and the analytical data increased.
- A new branch dealing with internal trade, including interprovincial trade movements, the marketing of staple commodities and a complete system of prices statistics, was established.
- Criminal statistics were reorganized and co-ordinated with the census and with other social statistics.
- Two new branches were established and substantial beginnings made in the treatment of public finance and education — the latter in collaboration with the nine provincial governments, including the holding of Canada's first Dominion-Provincial Conference on Education in October 1920.
- Relations between the Bureau and the Department of Labour, covering the then entire range of labour statistics, were reduced to formal working arrangements and overlapping eliminated.
- A reference library covering the statistics of major countries was established and a central tabulating service, available for all departments, was put into operation.
- The General Statistics Branch, whose Chief, Dr. S. A. Cudmore, was destined to succeed Dr. Coats as Dominion Statistician, reported steady improvement of its major work, the "Canada Year Book" as "the official compendium of Government data on the resources and development of Canada", and the launching of a *Monthly Review of Canadian Statistics* to reveal current economic trends through so-called "barometric" statistics.

Thus, during the succeeding 1920s and 1930s this broad framework of a unified and co-ordinated system of national statistics was well established and Bureau attention was being focused on qualitative improvements in statistical reporting systems, and on more sophisticated indexes. Perhaps the most outstanding achievement of the Bureau in the 1930s was the development and publication (1939) of statistics of "the Canadian balance of international payments" which coincided with the expansion and increased complexity of the Canadian economy and related problems of foreign investment, external trade and foreign exchange — all creating new demands for a synthesis of statistical data covering various fields of activity.

The Bureau's contribution to the nation's total war effort took numerous forms. Sometimes it involved the expansion of its own statistical compilations to meet the enormous demands of Government — for example, those relating to the cost-of-living index, to employment and payrolls, to the census of industry and to agriculture's food commodities. Sometimes it involved assisting in setting up separate statistical sections in war departments and agencies or lending trained personnel to collect and compile vital information — for example, a national registration required for the mobilization of manpower was taken with the help of the Bureau's census resources.

The increased postwar complexity of social and economic problems, the trend toward social security, the acceptance by governments of added responsibilities and administrative functions, the immense strides in industrialization, etc., greatly expanded the needs of government and industry for reliable statistical series as a vital aid in policy-making and administration. In taking up the challenge, the Bureau approximately doubled its staff between 1939 and 1950. It recruited a Research and Development Staff of economists and statisticians to set up a new series to meet the developing needs of expanding government functions, and to reorganize the national income statistics and produce the "national accounts" along modern lines. A development of lasting significance was the utilization of scientifically designed probability samples instead of the complete but financially prohibitive enumerations (normally restricted to the decennial and quinquennial censuses) to provide detailed estimates of the size and composition of the labour force. This technique was extended to other areas such as the surveying of incomes and expenditures and to consumer spending surveys required for the revisions of the consumer price index.

Other postwar developments included the revision of Canadian standard industrial and commodity classifications which led to improvements in the uniformity and consistency of economic statistics; the expansion of statistical data in the fields of national health and welfare, including a national survey of the volume of sickness and of medical and nursing care and of family expenditure relating thereto, the revision and standardization of hospital statistics and of statistics relating to criminal offences, juvenile delinquency, police activities and correction institutions; and the adoption of improvements in census-taking, including the use of the electronic computer to speed up compilation and publication of census data.

Although the taking of nationwide decennial and quinquennial censuses of population and agriculture, of annual censuses of industry and, recently, of a quinquennial census of merchandising and services, and the compilation and publication of the results thereof are among the most widely known of the Bureau's services, a more sophisticated measure of its contributions to Canada is to be found in its development of such statistical aggregates as the gross national product, gross national expenditure and personal income and their publication annually.

The national accounts permit the quantitative analysis of economics within the framework of modern economics of which Keynes was the founder and of which the sophisticated econometric models of the past few years are the latest result. In addition, they furnish an economic and operational framework for the analysis and compilation of statistics.

The income and expenditure accounts were only the first set of interrelated accounts in a broad system of economic statistics which has by now been extended to include input-output tables and details of production by industry in constant prices. These permit the analysis of the industrial structure and its components in a fine degree of detail and furnish the basis for the integration of statistics relying on the establishment as the collection unit. Statistics on financial flows, in process of completion, permit a thorough exploration and examination of the financial transactions in the economy and

DBS

integrate those statistical data which are obtained from the company or legal entity as the unit of collection. Within this framework, the future will probably see the development of wealth estimates as well as measures of over-all factor productivity. Although at present the Bureau's productivity estimates refer only to the labour component of production, these estimates constitute another facet of broad economic statistics.

Significant among the factors highlighting the accelerated demands for statistical services during the 1960s have been the pressing needs of such new Federal Government agencies as the Agriculture and Rural Development Act (ARDA) administration, the Economic Council of Canada, the Department of Industry, the Department of Manpower and Immigration and various Royal Commissions of inquiry, as well as the requirements for more provincial and regional data, and the practical integration into the national statistical system of the operations of the Corporations and Labour Unions Returns Act Administration (CALURA). These developments have been accompanied by a widespread recognition in government and in business of the vital role of statistical information in the process of decision making. To meet the challenge of such demands, the Bureau has augmented the professional staff in all its statistical divisions and added a Regional Statistics and Analysis Staff. To accommodate its data-processing demands, the Bureau's three computer systems have been operating on a 24-hour-day, five-day-week basis and are about to be replaced by more modern equipment. The observations and recommendations of the Royal Commission on Government Organization (Glassco Commission, December 1962) provided a number of distinctive guidelines respecting statistical services, some of which have been or are in the process of being implemented. For example, the Bureau's status was clearly defined by Order in Council of Jan. 6, 1965, which specifically designated the Dominion Bureau of Statistics as a separate department of government and the Dominion Statistician as having the rank of a Deputy Minister.

The Bureau's inauguration of a Monthly Survey of Occupational Job Vacancies in 1967 is an example of current endeavours to provide statistical information in areas of management and policy formation, such as manpower. Recent expansion of the Bureau's information services indicates the importance currently being placed on improvement of relations with respondents to DBS surveys as being essential to obtaining the co-operation necessary in supplying accurate information promptly. Development of the uses of statistics, especially among marginal and non-users in the business community, is pursued as an associated activity.

The reorganization in January 1967 of DBS through the grouping of its 19 subject-matter Divisions into four Branches, each headed by a Director General, is designed to enable the Bureau to manage its affairs more efficiently and to cope with the increasing complexity and rapid expansion of its services to the government and to the public. The four Branches, entitled Economic Accounts, Financial Statistics, Economic Statistics, and Socio-Economic Statistics, augmented by a new data-processing Operations and Systems Development Branch, will facilitate more effective communication between the Dominion Statistician, executive management and the subject-matter and service Divisions. The new organization is designed as well to strengthen the integration and co-ordination of subject-matter fields, to develop and implement up-to-date

statistical methods and to carry out basic analysis and research. The Bureau should accordingly be able to serve more effectively the needs of governments and the community at large.

The speed and direction of further development of the statistical system will reflect, in all probability, a continued growth in the tendency of business and government at all levels to require objective and reliable statistical information in order to make important decisions regarding national and regional policies and in the allocation of large amounts of resources. While the basic statistical structure now exists in many fields, new areas are yet to be developed and the Bureau is devoting important resources to improving its efficiency and productivity to meet existing and new needs as economically and effectively as possible.

TABLE OF CONTENTS

	PAGE
PHOTO CREDITS.....	xiv
MAPS AND CHARTS.....	xv
INTERPRETATION OF SYMBOLS.....	xvi
WEIGHTS AND MEASURES AND OTHER INTERPRETATIVE DATA.....	xvii
CHAPTER	
I PHYSIOGRAPHY AND RELATED SCIENCES.....	1
II CONSTITUTION AND GOVERNMENT.....	66
III POPULATION.....	189
IV IMMIGRATION AND CITIZENSHIP.....	227
V VITAL STATISTICS.....	249
VI PUBLIC HEALTH, WELFARE AND SOCIAL SECURITY.....	291
VII EDUCATION.....	354
VIII SCIENTIFIC AND INDUSTRIAL RESEARCH.....	401
IX CRIME AND DELINQUENCY.....	434
X LAND USE AND RENEWABLE RESOURCE DEVELOPMENT.....	463
XI AGRICULTURE.....	473
XII FORESTRY.....	537
XIII MINES AND MINERALS.....	565
XIV FISHERIES AND FURS.....	623
XV ELECTRIC POWER.....	659
XVI MANUFACTURES.....	689
XVII CAPITAL EXPENDITURES, CONSTRUCTION AND HOUSING.....	723
XXVIII LABOUR.....	746
XIX TRANSPORTATION.....	791
XX COMMUNICATIONS.....	862
XXI DOMESTIC TRADE AND PRICES.....	894
XXII FOREIGN TRADE.....	946
XXIII PUBLIC FINANCE.....	1005
XXIV TRENDS IN ECONOMIC AGGREGATES.....	1057
XXV BANKING, OTHER COMMERCIAL FINANCE AND INSURANCE.....	1111
XXVI DEFENCE.....	1157
XXVII OFFICIAL SOURCES OF INFORMATION AND MISCELLANEOUS DATA.....	1174
Books About Canada.....	1174
Directory of Sources of Official Information.....	1193
Special Material Published in Former Editions of the Canada Year Book.....	1224
Register of Official Appointments.....	1228
Order of Canada Awards.....	1236
Federal Legislation, 1967-68.....	1238
Canadian Chronology.....	1242
APPENDIX I.....	1249
APPENDIX II.....	1252
INDEX.....	1254

PHOTO CREDITS

Frontispiece.....	Malak, Ottawa
pp. iv and v.....	Malak, Ottawa
p. xyiii.....	George Hunter, Toronto
Facing p. 24.....	National Museum of Human History
Facing p. 28.....	National Museum of Human History
Facing p. 50.....	National Collection of Nature Photographs
	National Museums of Canada
	Alan G. Loughrey, Ottawa, Ont.
	Valerie J. May, Cultus Lake, B.C.
	Dr. C. G. Hampson, South Edmonton, Alta.
	S. D. MacDonald, Ottawa, Ont.
	Samuel Brisson, Sherbrooke, Que.
	Bruce C. Windsor, Scarborough, Ont.
	Louis M. Richardson, Islington, Ont.
	W. D. Addison, Port Arthur, Ont.
	Rev. L. C. Harvey, Woodstock, Ont.
	Russell J. Gee, Toronto, Ont.
p. 219.....	Department of Indian Affairs and Northern Development
p. 248.....	Malak, Ottawa
p. 345.....	National Film Board
	Department of National Health and Welfare
Facing p. 360.....	George Hunter, Toronto
	University of New Brunswick, Fredericton, N.B.
p. 433.....	National Film Board
p. 465.....	Canada Department of Agriculture
p. 504.....	Canada Department of Agriculture
p. 564.....	International Nickel, Sudbury
Facing p. 592.....	Department of Energy, Mines and Resources
	George Hunter, Toronto
p. 661.....	Ontario Hydro, Toronto
p. 704.....	CAE Industries Ltd., Montreal
	National Film Board
p. 713.....	Stelco, Hamilton
p. 717.....	National Film Board
p. 735.....	Department of Transport
p. 864.....	CN Telecommunications, Toronto
p. 866.....	CN Telecommunications, Toronto
p. 976.....	National Film Board
p. 986.....	"Foreign Trade" Division, Department of Trade and Commerce
p. 1003.....	Canadian Government Travel Bureau
p. 1004.....	National Arts Centre

MAPS AND CHARTS

	PAGE
Map: Political Map of Canada.....	<i>Inside back cover</i>
Chart: Geological Time Chart.....	<i>Insert facing</i> 2
Maps: Geological Regions of Canada.....	}
Divisions of the Canadian Shield.....	<i>Insert facing</i> 3
Map: Drainage Basins of Canada.....	9
Map: Standard Time Zones of Canada.....	65
Chart: Organization of the Government of Canada.....	<i>Insert facing</i> 128
Chart: Vital Statistics Rates, 1925-66.....	255
Chart: Age-Specific Death Rates, 1965.....	266
Chart: Main Causes of Death, 1931 to 1965.....	270
Chart: Causes of Infant and Neonatal Deaths, 1965.....	274
Chart: Maternal Deaths.....	278
Chart: Primary Causes of Hospitalization, 1964.....	320
Chart: Age-Specific Hospitalization Separation Rates for Males and Females, 1964.....	320
Chart: Trends in the Incidence of Major Notifiable Diseases, 1957-66.....	324
Chart: School and University Enrolment, School Years Ended 1952-68.....	368
Chart: Populations in Custody in Training Schools, Provincial Adult Institutions and Federal Penitentiaries as at Mar. 31, 1961-65, and Percentage Change.....	454
Chart: Beef Cattle on Farms, Slaughtered and Exported, 1958-67.....	504
Map: Mineral References.....	<i>Insert facing</i> 592
Chart: Growth in Electric Power Generating Capacity in Canada, 1917-70.....	661
Chart: Utilization of Power.....	662
Chart: Supply and Disposition of Canadian Wheat Crop, Years Ended July 31, 1957-66....	907
Chart: Real Domestic Product at Factor Cost, by Quarters, 1949-66.....	1070
Chart: Indexes of Output per Person Employed, Commercial Industries, 1946-66.....	1079

SYMBOLS

The interpretation of the symbols used in the tables throughout this publication is as follows:—

.. figures not available.

... figures not appropriate or not applicable.

— nil or zero.

-- amount too small to be expressed or where "a trace" is meant.

^p preliminary figures.

^r revised figures.

WEIGHTS AND MEASURES AND OTHER INTERPRETATIVE DATA

In Canada as a rule the Imperial system of weights and measures is followed; an exception is the ton where, unless otherwise stated, the short ton of 2,000 lb. is meant.

Relative Weights and Measures, Imperial and United States

The following list of coefficients may be used to translate amounts expressed in one unit to the other. Where reference is made to Imperial pint, quart and gallon, their equivalent in ounces is also in Imperial measure; likewise United States designations for these quantities are shown in the U.S. equivalent in ounces. The Imperial (or British) fluid ounce and the U.S. fluid ounce are different measures. One Imperial fluid ounce equals 0.96 U.S. fluid ounce and one Imperial gallon equals 1.2 U.S. gallons.

1 Imperial pint=20 fluid ounces	1 short ton=2,000 pounds
1 U.S. pint=16 fluid ounces	1 long ton=2,240 pounds
1 Imperial quart=40 fluid ounces	1 barrel crude petroleum=35 Imperial gallons
1 U.S. quart=32 fluid ounces	1 ounce avoirdupois=0.91146 ounce troy (oz.t.)
1 Imperial gallon=160 fluid ounces	1 statute mile=5,280 feet
1 U.S. gallon=128 fluid ounces	1 nautical mile=6,080 feet
1 Imperial proof gallon=1.36 U.S. proof gallon	

The following weights and measures are used in connection with the principal field crops and fruit; 2.3 bu. of wheat are required to produce 100 lb. of flour.

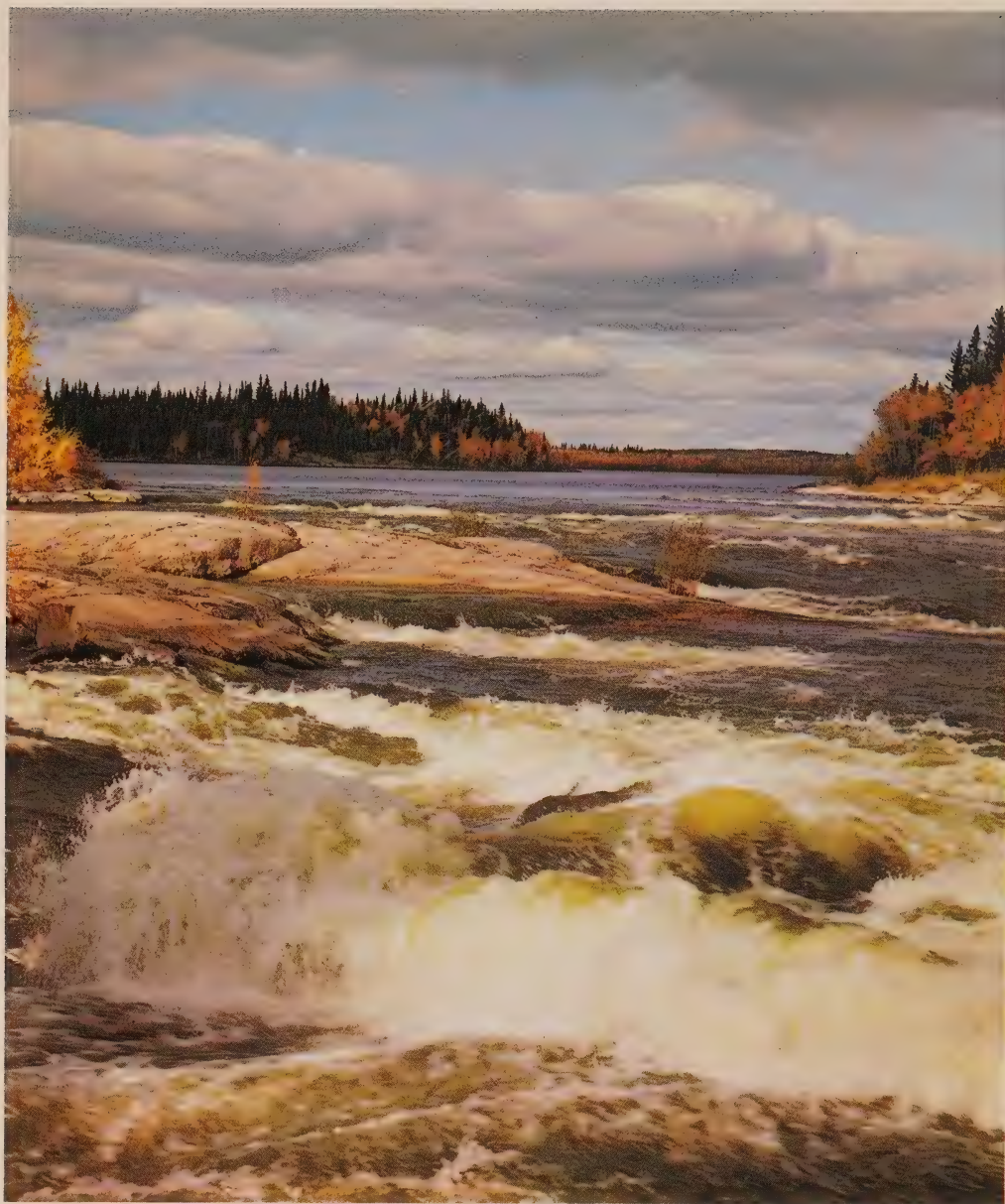
	<i>Pounds per Bushel</i>		<i>Pounds per Bushel</i>
Grains—		Fruits (standard conversions)—	
Wheat.....	60	Apples.....	45
Oats.....	34	Pears, plums, cherries, peaches, grapes and apricots.....	50
Barley and buckwheat.....	48	Strawberries and raspberries (per qt.)	1.25
Rye, flaxseed and corn.....	56		
Rapeseed and mixed grains.....	50		
All others.....	60		

Fiscal Years of Federal and Provincial Governments

The fiscal year of the Federal Government and of each of the ten Provincial Governments ends on March 31. Throughout the Year Book, all figures are for calendar years except where otherwise indicated in text or table headings.

Miscellaneous

Maritime Provinces=Prince Edward Island, Nova Scotia and New Brunswick
 Atlantic Provinces=Newfoundland, Prince Edward Island, Nova Scotia and New Brunswick
 Central Canada=Quebec and Ontario
 Prairie Provinces=Manitoba, Saskatchewan and Alberta
 Btu.=British thermal unit (coal)
 Mcf.=thousand cubic feet (gas)
 n.e.s.=not elsewhere specified
 n.o.p.=not otherwise provided for
 psi. (atomic research)=pounds-force per square inch (pressure)
 D.B.H. (forestry)=diameter at breast height.



Drinking Falls on the Churchill River, to the north of Lac la Ronge in north-central Saskatchewan. This is typical of the rugged beauty of Canadian Shield terrain with its exposed rocks, its myriad of lakes and rivers and its ever-present promise of hidden wealth.

CHAPTER I.—PHYSIOGRAPHY AND RELATED SCIENCES

CONSPECTUS

	PAGE		PAGE
Part I.—Geology and Geography	1	Subsection 1. National Parks.....	31
SECTION 1. THE GEOLOGY OF CANADA.....	1	Subsection 2. Provincial Parks.....	36
SECTION 2. PHYSICAL GEOGRAPHY.....	6	Subsection 3. Ottawa, Canada's National Capital.....	42
Subsection 1. Inland Waters.....	9	SECTION 2. WILDLIFE RESOURCES AND CONSERVATION.....	45
Subsection 2. Coastal Waters.....	13	SPECIAL ARTICLE: Animal Life in Canada Today	47
Subsection 3. Islands.....	15	Part III.—Climate and Time Zones	60
Subsection 4. Mountains and Other Heights.....	16	SECTION 1. CLIMATE.....	60
SECTION 3. FEDERAL GOVERNMENT SURVEYING AND MAPPING.....	18	SECTION 2. METEOROLOGICAL OBSERVING STATIONS.....	63
SECTION 4. ARCHAEOLOGY IN CANADA.....	20	SECTION 3. STANDARD TIME AND TIME ZONES.....	64
Part II.—Public Lands, Wildlife and Flora	29		
SECTION 1. FEDERAL AND PROVINCIAL PUBLIC LANDS.....	29		

*The interpretation of the symbols used in the tables throughout the Year Book
will be found on p. xvi.*

PART I.—GEOLOGY AND GEOGRAPHY

Section 1.—The Geology of Canada*

The bedrock foundation of Canada and its adjacent continental shelves seem rigid and unchanging to human eyes, yet, in terms of geological time, these rocks represent only a momentary stage in the evolution of the Continent, an evolution which began more than 4,000,000,000 years ago. Geological study of most of the present land surface of Canada has shown that at various periods and in various regions dark molten rocks rose from great depths, volcanoes erupted on the ancient land and sea floors, thick sequences of sediments accumulated, granites were either intruded as molten magma or derived from earlier rocks during intense folding and mountain building, erosion wore down or subdued the older mountain chains, shallow seas repeatedly encroached on and receded from the Continent of today, continental glaciers covered most of Canada and, as part of these geological processes, valuable minerals and fossil fuels became concentrated under exceptionally favourable conditions. These interrelated geological processes have produced the buried crust and the present face of Canada. They control the distribution of its economic mineral deposits, its physiography and, in large part, its present and potential land use.

The primary geological subdivisions of Canada are outlined in the following sections. The Canadian Shield forms the ancient nucleus of the Continent. As well as comprising the vast areas exposed in Central and Northern Canada, the Shield extends beneath the veneer of younger marine sediments exposed at the present surface in the Hudson Bay

* An outline extracted from a more detailed article on "Geology and Economic Minerals of Canada", prepared by W. D. McCartney of the Geological Survey of Canada, appearing in the 1967 Year Book, pp. 19-32.

region, some Arctic islands, the St. Lawrence Lowlands and the Interior Plains. West of the Interior Plains, and north and southeast of the Canadian Shield, deep, elongate troughs (geosynclines) developed. These geosynclines received sediments and volcanics which, by folding, were converted into the mountain belts of the Cordilleran, Innuitian and Appalachian regions.





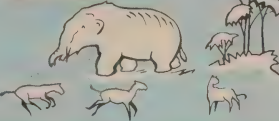


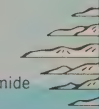


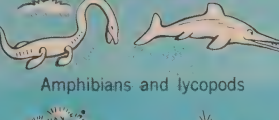






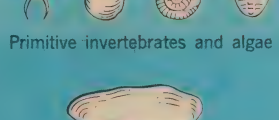
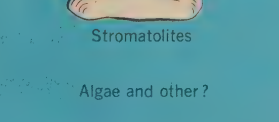



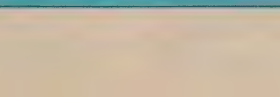

The Canadian Shield.—Precambrian evolution of the present Canadian Shield extended over more than five sixths of known geological time. During this immense interval, many cycles of volcanism, sedimentation, intrusion, metamorphism, mountain building, erosion and ore formation have been completed. The complexities of this history have become better understood as the rate of geological reconnaissance mapping, with the support of helicopters since 1952, has increased and as absolute ages of minerals have been determined by isotopic ratios from about 1,500 well-distributed samples of the Canadian Shield. Many of the absolute ages represent the ages of four main periods of mountain building termed orogenies; these are indicated on the facing geological time chart. The lower map facing p. 3 shows the eight structural provinces currently recognized in the Shield. Each structural province is defined by the equivalent isotopic ages of their terminal orogenies as well as being characterized by variations in rock types, degree of metamorphism, and dominant types of ore deposits. Following one or more major orogenies in a region, that portion involved was stabilized, and relatively undeformed younger Precambrian erosion products were deposited to form basins of cratonic cover rocks, most of which are shown on the map of the Shield. These relatively undeformed late Precambrian basins and remnants of early Palaeozoic sediments show that the Canadian Shield has been remarkably stable since late Precambrian time, subject only to encroachment of younger seas and varying degrees of uplift. In relatively recent geological times, Pleistocene glaciation with scouring of bedrock and deposition of clastic materials has profoundly affected the present drainage and physiography of the region.

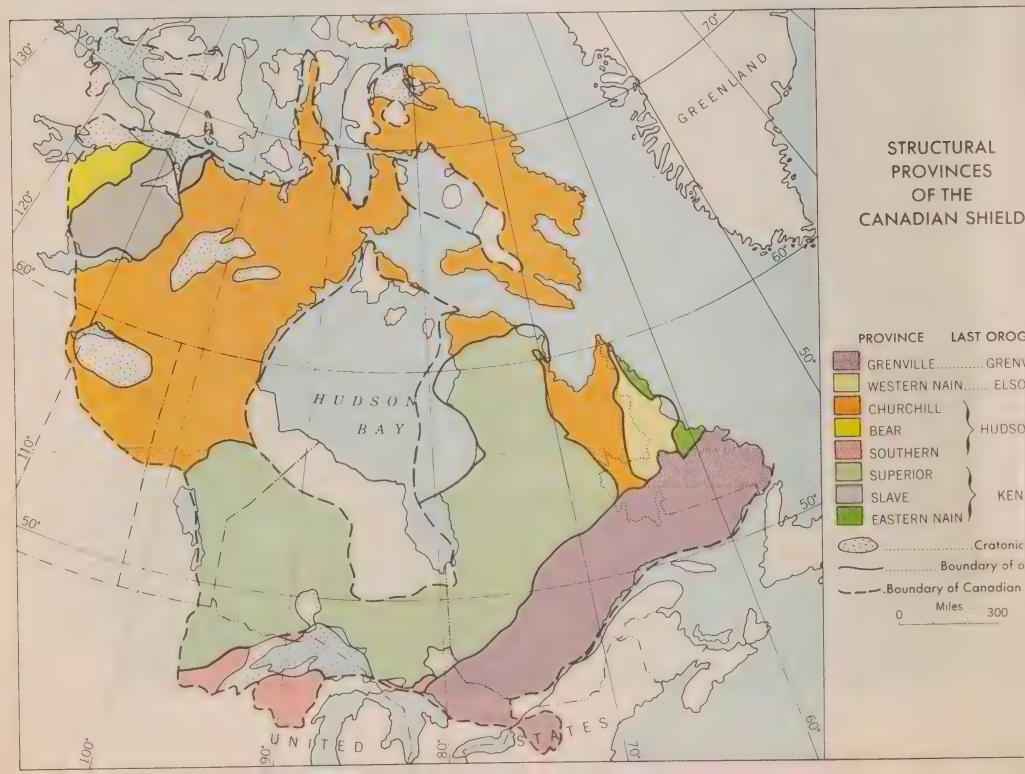
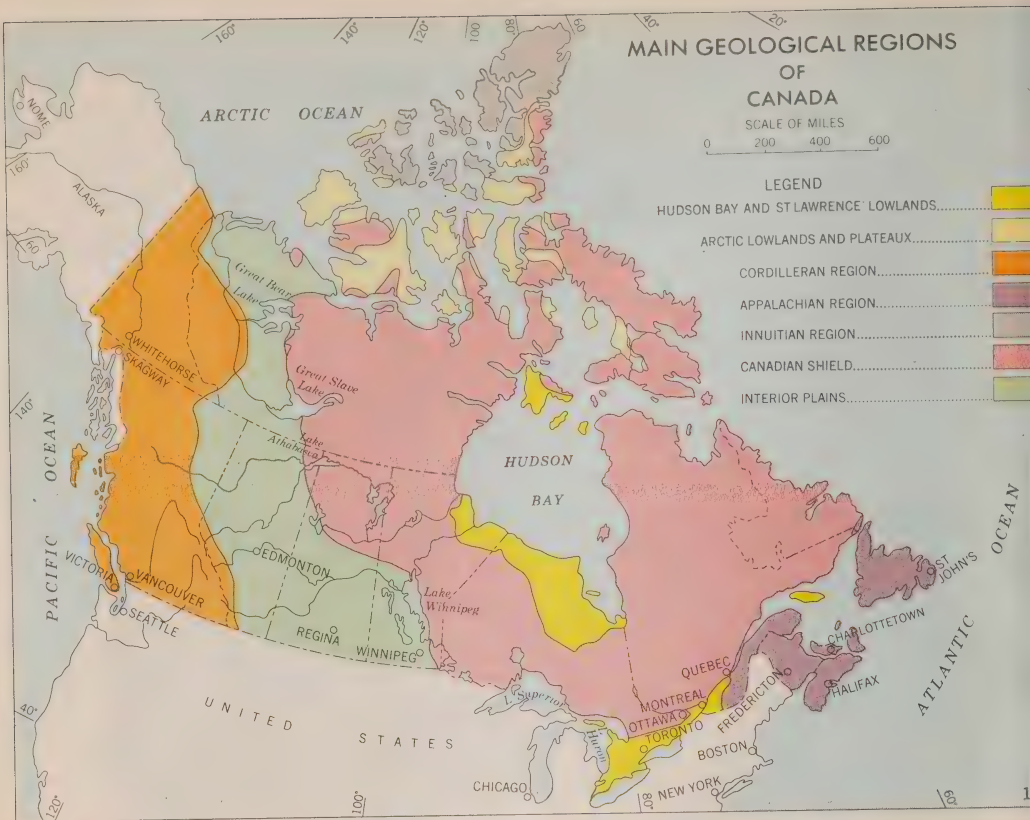
A large part of the Shield, extending from Georgian Bay to the Strait of Belle Isle, has long been recognized as forming a distinct segment called the "Grenville". It was named after the Grenville series, characterized by crystalline limestone, impure limy strata, and large areas of sedimentary gneisses in various stages of alteration to granite. The eastern part of the province contains large igneous intrusions of anorthosite. The age relations between Grenville strata and those of the neighbouring Superior province are puzzling. Near Sudbury, as well as at the south end of the Labrador Trough, beds can be traced across the boundary into more metamorphosed rocks of Grenville type. It is believed, therefore, that the distinctive features of the Grenville may be related more to the time and degree of metamorphism than to distinctions in the original age of deposition of strata.

The areas of undeformed Precambrian cratonic cover rocks shown on the map facing p. 3 represent dominantly clastic detritus washed into basins from the consolidated, nearby, older rocks. At times, marine incursions into these basins led to deposition of limestone and dolomite, and volcanics were deposited in others.

The Appalachian Region.—This region comprises the Maritime Provinces and southeastern Quebec and is the northern continuation of a long belt of folded strata extending along the eastern side of the United States. It is on the site of a long, linear trough or geosyncline that existed mainly in Palaeozoic time in which great thicknesses of sedimentary and volcanic strata were laid down. The northwestern boundary of the region lies adjacent to the Canadian Shield and to the St. Lawrence Lowlands. The strata in the Appalachians have been folded and faulted along axes that strike northeasterly except for local regions such as the Gaspé Peninsula where strikes swing to the east. Thus, strata of different kinds and ages and some belts of intrusive rocks normally form northeasterly-trending bands, many of which are responsible for development and orientation of peninsulas, bays and ridges of the region. Two principal periods of orogeny called the Taconic and the Acadian have been recognized. The Taconic occurred near the close of Ordovician

GEOLOGICAL TIME CHART

ERA	PERIOD		CHARACTERISTIC LIFE	CANADIAN OROGENIES	TOTAL ESTIMATED TIME IN YEARS
CENOZOIC	TERTIARY	RECENT	Man 		1,200,000
		PLEISTOCENE	Mammals and modern plants 		
		PLIOCENE			
		MIOCENE			
		OLIGOCENE			
		EOCENE			
PALEOCENE	Reptiles and gymnosperms 	Laramide 	65,000,000		
MESOZOIC		CRETACEOUS		Columbian 	225,000,000
		JURASSIC		Nassian Inklinian 	
		TRIASSIC		Tahltanian Appalachian 	
		Amphibians and lycopods 			
PALÆOZOIC	CARBONIFEROUS	PERMIAN			345,000,000
		PENNSYLVANIAN			
		MISSISSIPPIAN			
		DEVONIAN	Fishes 	Caribboan Ellesmerian 	
		SILURIAN		Acadian 	
		ORDOVICIAN	Higher invertebrates 	Taconic 	
		CAMBRIAN			
			Primitive invertebrates and algae 		
PRECAMBRIAN	PROTEROZOIC	HADRYNIAN		Grenville 	570,000,000
		HELIKIAN	Stromatolites 	Elsonian 	945,000,000
		APHEBIAN	Algae and other ? 	Hudsonian 	1,370,000,000
				Kenoran 	1,735,000,000
ARCHEAN				2,490,000,000	
G S C					3,200,000,000 or more



time and the Acadian about Middle Devonian time. In Canada the Taconic disturbances were fairly widespread, the Acadian were more so, affecting areas that were previously affected by the Taconic as well as areas that were not, and the Appalachian orogeny, which was a major feature in parts of the United States, was of minor and local importance.

Metamorphosed Precambrian rocks of Grenville type are exposed to form the Long Range of western Newfoundland and small areas in Cape Breton and New Brunswick. On the east flank of the Appalachian geosyncline, as exposed in southeast Newfoundland, younger Precambrian volcanics and sediments are relatively unaltered and were intruded by small granite bodies 580,000,000 years ago. Although Precambrian rocks probably underlie much of the central Appalachians, they are buried beneath the thick Palæozoic sequence.

Cambrian slates, minor limestones and local areas of volcanics lie above and adjacent to Precambrian rocks. Massive sulphide deposits in schists derived from Cambrian volcanics in southern Cape Breton and southeast Quebec were formerly mined. The overlying Ordovician beds were formed at the early stage of development of the Appalachian geosyncline. From west to east, and depending on their position in the geosyncline, the thick Ordovician sections comprise limestone and/or slate in western Newfoundland and adjacent to the St. Lawrence Lowlands in southeast Quebec. Silurian strata are rather similar to Ordovician rocks but are not known to contain large mineral deposits. Unlike the Ordovician submarine volcanics, some or most of the Silurian volcanics were formed on land. This may be one factor in the marked difference in known ore content of the two volcanic assemblages.

In Devonian time, granite batholiths were emplaced in the Maritime Provinces, and smaller stocks of the same age were intruded in Gaspé and southeastern Quebec. At this time, older beds were folded and metamorphosed to varying degrees, particularly near the margins of the granites.

Following the folding and granite intrusion that formed the Appalachian Mountains, adjacent basins were rapidly filled with coarse and progressively finer-grained detritus eroded from the adjacent mountains. Some areas included marine beds, such as the petroliferous Albert shales of eastern New Brunswick which yield oil and gas. After initial infilling of basins, shallow Mississippian seas encroached on the valleys and deposited limestones. Many thousands of feet of clastic sediments were deposited after the Mississippian seas retreated. These beds of Pennsylvanian age contain the commercial coal measures of Nova Scotia. In Triassic time, outpourings of basalt, particularly preserved adjacent to and below the Bay of Fundy, terminated rock-forming processes in the Appalachians. Subsequent erosion has yielded the present, fairly subdued topography of this former mountain chain.

The Cordilleran Region.—The Cordillera of Western Canada consists of three parallel northwest-trending geological and topographical systems. The Eastern System of western Alberta, eastern British Columbia, eastern Yukon, and western Northwest Territories includes the Rocky, Richardson, Franklin and Mackenzie Mountains and foothills, and several intervening plateaux. Comprising the Western System are the Coast Mountains along the west mainland of British Columbia, the St. Elias Mountains in southwest Yukon, the Queen Charlotte Islands and Vancouver Island. The Interior System lies between the Eastern and Western Systems. It contains the plateaux, plains and subdued mountain ranges of the interior of British Columbia and Yukon Territory.

Unmetamorphosed Precambrian to Cretaceous sedimentary strata form most of the Eastern System. These sedimentary strata, which have been uplifted several thousand feet by fault movements, are well exposed in the Rocky Mountains. The Interior System is composed largely of metamorphic, sedimentary and volcanic rocks of Precambrian to Mesozoic ages, which are intruded by numerous, generally unconnected, granitic stocks and batholiths. In places, these rocks are overlain by great thicknesses of Cretaceous and Tertiary volcanic and sedimentary strata. Flat-lying Tertiary basalt flows form many

of the plateaux. In the Western System, the rugged Coast Range consists of almost continuous exposures of steeply eroded granitic rocks of Mesozoic and Tertiary ages flanked on both sides by late Palaeozoic and Mesozoic volcanic rocks and by basins of Cretaceous and Tertiary sedimentary rocks.

During late Precambrian times, beds of quartzite, argillite, dolomite and other sedimentary rocks now comprising the Purcell and Windermere beds were deposited in the eastern Cordilleran geosyncline, a vast shallow sea that extended from south of the present Canada-United States border to the Arctic Ocean. From Cambrian until mid-Devonian time, sedimentary strata consisting of shale, quartzite and limestone continued to be deposited in the area which now forms the Eastern and Interior Systems. In southeastern British Columbia, the world-famous Sullivan zinc-lead orebody lies in Purcell beds and is thought to have formed during late Precambrian time.

Beginning in the mid-Devonian and lasting until early Jurassic, the Western System and most of the Interior System consisted of a deep oceanic trough in which accumulated submarine basalts and fine argillaceous and cherty sediments such as those of the Permian-Carboniferous Cache Creek Series and the Triassic Takla Series. Meanwhile, sedimentary strata were forming in the more shallow waters of the Eastern System, east of the present Rocky Mountain Trench. Thus, in the Rocky Mountains, Palaeozoic limestones, dolomite, quartzite and shale are overlain in many places by similar Mesozoic rocks.

The first large granitic bodies were intruded into rocks of the Interior and Western Systems during early Jurassic time. They were composed mainly of granodiorite and quartz diorite, but ranged in composition from gabbro to granite. These intrusions were accompanied by folding, faulting and metamorphism. Although this orogeny may have been most intense during late Jurassic to early Cretaceous time, intrusion continued until early Tertiary time. Many mines in the Cordillera are related to Mesozoic and Tertiary intrusions. Uplift of the rocks during these processes created mountain chains and, by early Cretaceous time, rhyolites, andesites, basalts and sediments were being deposited in inter-mountain basins largely separated by the uplifted areas. Erosion of the mountains followed and, in late Cretaceous time, sandstones, conglomerate, shale and extensive beds of coal accumulated in large isolated basins such as that now occupied by the Nanaimo Series on Vancouver Island. Gradual uplift continued so that by Tertiary time the basins were very local and entirely continental. Sandstones and other sediments derived from elevated areas continued to be deposited in the low-lying valleys.

Uplift and mountain building in the Eastern System was delayed until the Laramide Orogeny in early Tertiary time. Unlike the earlier orogenies to the west, no significant granitic bodies were intruded in the Eastern System. In many parts of the Rocky Mountains, Precambrian and Palaeozoic strata were thrust several miles to the east along low-angle westward-dipping fault planes. Thus, these transported older rocks commonly came to rest above younger beds. At the same time and again in late Tertiary time, the eroded Western and Interior System rocks, as well as those of the Eastern System, were again uplifted. Erosion, including glacial scouring, which in places has continued to the present day, formed deep valleys in the elevated rocks and has produced the present configuration of the Coast Range, the Rockies and the intervening mountain chains.

In the Interior System, much lava was deposited on the plateaux at various times during the Tertiary Period, mainly in or about Miocene time. The lavas are chiefly basaltic and apparently welled from long fractures rather than from individual volcanoes. Sandstone, shale and volcanic ash were deposited in local freshwater basins in the same belt.

In latest Tertiary and Pleistocene times, some uplift and minor volcanic deposition occurred in the Western and Interior Systems. Very recent, post-glacial volcanic activity is represented by several well-preserved cinder cones in north, southwest and central British Columbia.

Glaciation, as in other parts of Canada, was widespread in the Cordillera during the Pleistocene Epoch, and glaciers persist today in many mountain systems, chiefly in the

St. Elias and Coast Mountains and the Columbia Ice Field in the Rockies. A large part of the Yukon Territory, however, escaped Pleistocene glaciation because the high St. Elias Mountains barred moisture-laden winds from the Pacific to such an extent that ice did not accumulate in parts of the interior, despite the depressed temperatures of the time. This lack of glaciation was largely responsible for the preservation of the Klondike placer gold deposits.

Innuitian Region.—North of the Arctic Plains and Plateaux, where Palæozoic limestones rest on Precambrian generally-stable crystalline rocks, deep crustal depressions were initiated in late Proterozoic time and received thick deposits of carbonates and shales (miogeosynclinal type) and, in northern Ellesmere Island, volcanics and greywackes (eugeosynclinal type). In the southern basins, Proterozoic sediments are mainly carbonates and coarse to fine clastic sediments. Overlying these conformably are thick layers of lower Palæozoic carbonates which are thicker and include more abundant dark shales to the north. Middle Ordovician gypsum beds extend in places across the southern basins. Carbonates are admixed with muds and sands in parts of the Upper Silurian to Middle Devonian beds, and the influx of these clastic materials probably reflects relatively minor orogenies and periodic uplifts such as the Boothia Arch in the region. Folding of the eugeosynclinal volcanics of northern Ellesmere Island produced land areas from which sands were swept southward to form Upper Devonian non-marine sandstones in the miogeosynclinal basins. The total assemblage of sediments is more than 35,000 feet thick in some districts. The dominant folding of the Franklinian geosyncline, called the Ellesmerian orogeny, occurred near the close of Upper Devonian time. With the exception of the Cornwallis fold belt discussed below, the resulting folds of the Innuitian Region trend southwesterly from northern Ellesmere Island and swing westerly through the Parry Islands. The Cornwallis fold belt interrupts this trend at right angles because it lies along a buried north-trending prong of Precambrian rocks, which extend from exposures of the Boothia Peninsula. This elongate Precambrian basement rose periodically at least six times to produce north-trending faults and folds in the overlying Palæozoic beds of the Cornwallis fold belt, whereas the Franklinian geosyncline was deformed by somewhat younger and more widespread compressional crustal forces.

Following the Ellesmerian orogeny, a vast area including the present Sverdrup Islands and much of western Ellesmere Island was depressed to form the site of deposition of a composite thickness of 60,000 feet of Pennsylvanian to Tertiary volcanics, shales, sandstones, some gypsum and, in the upper part, a thick assemblage of non-marine clastic sediments. The rocks of this Sverdrup Basin were deformed about the end of the Mesozoic Era by the Laramide orogeny. Late Palæozoic gypsum beds, which tend to flow under high pressure, were forced upward to intrude overlying Mesozoic beds. Gypsum diapiric domes later penetrated Tertiary beds.

Arctic Lowlands and Plateaux.—These geological and physiographic divisions lie in large basins separated by arches and belts of exposed Precambrian crystalline rocks. Gently inclined or flat sediments underlying the basins tend to be thin sandstones and limestones near the basal contact with metamorphosed Precambrian rocks but limestones and dolomites of Middle Ordovician to Early Devonian age are the principal rock types and at some localities are estimated to be up to 18,000 feet thick. Shales, sandstones and restricted areas of conglomerates of Middle Devonian to Late Devonian age are normally the youngest rocks preserved.

Arctic Coastal Plain.—This plain comprises late Tertiary or Pleistocene sand and gravels, which dip gently seaward along the northern exposed border of the Innuitian Region. The very young beds cover the extensions of eroded fold belts and the Sverdrup Basin. Although of minor land extent, they or their equivalents probably extend far out on the Arctic continental shelf.

The Interior Plains.—The Interior Plains are underlain by undisturbed or gently flexed or tilted sedimentary strata, which overlap the western border of the Canadian Shield and merge with the eastern foothills of the Cordilleran region. The Shield slopes at a rate of 15 feet per mile under the Great Plains, in the western part of which the overlying strata reach a thickness of 10,000 feet. The older overlying beds have been bevelled by erosion along the border of the Shield, exposing in central Manitoba marine beds of limestone, sandstone and shale of Ordovician, Silurian and Devonian ages. Farther north the exposed Palæozoic strata are mainly Devonian. The Palæozoic formations are overlain by early Mesozoic strata of marine origin and these by both marine and freshwater Cretaceous formations, which are the uppermost strata in much of Saskatchewan and Alberta. In places, however, as at Turtle Mountain in Manitoba and the Cypress Hills in Saskatchewan, these are overlain by remnants of early Tertiary formations.

St. Lawrence and Hudson Bay Lowlands.—The St. Lawrence Lowlands are underlain by marine beds deposited during much of Palæozoic time. Rather similar late Ordovician to Devonian beds are exposed in the Hudson Bay Lowlands. Small areas of Palæozoic beds are preserved at various localities on the Canadian Shield between these two Lowlands and suggest that arms or shallow straits of Palæozoic seas may have connected the present Hudson Bay and the St. Lawrence Lowland areas. The St. Lawrence Lowlands from Quebec City to Windsor are occupied by about one half of the population of Canada, supported by much arable land and major industrial concentrations. These Lowlands are divided by an exposed southeast-trending prong of the Canadian Shield called the Frontenac Axis, which extends into the United States northeast of Lake Ontario. Southwest of the Frontenac Axis, marine sedimentary rocks of Cambrian to Mississippian age rest on buried Precambrian rocks. Known formations there have an aggregate thickness of almost 6,000 feet. Rocks are mainly limestones, shales and sandstones deposited in generally shallow seas.

Surficial Deposits

The continental glaciation of most of Canada has removed weathered bedrock and residual soils and has almost certainly removed some types of ores such as pre-Pleistocene placer gold deposits, laterites, and upper portions of metallic and manganiferous ore deposits, which had formerly been enriched under stable near-surface conditions. Material deposited includes dominantly clastic detritus such as tills, esker gravels, outwash gravels and sands, or rock flour deposited in lakes or shallow seas in the form of multiple layers of varved clay or massive clay beds. Maps showing the surface distribution of these materials, published by federal agencies, reflect some physiographic features and present and potential land use.

Section 2.—Physical Geography

Canada occupies the northern half of the North American Continent with the exception of Alaska and Greenland, extending in longitude from Cape Spear, Newfoundland, at 52° 37' W, to Mount St. Elias, Yukon Territory, at 141° W, a distance of 88° 23' or 3,223 miles. In latitude it stretches from Middle Island in Lake Erie, at 41° 41' N, to the North Pole. The northernmost point of land is Cape Columbia on Ellesmere Island, at 83° 07' N, and the straight-line distance from Middle Island to Cape Columbia is 2,875 miles.

In shape, Canada resembles a distorted parallelogram with its four corners making important salients. In the north the salient formed by the Arctic Archipelago, which penetrates deep into the Arctic basin, guards the northern approaches to the Continent from Europe and Asia and makes Canada neighbour to the Union of Soviet Socialist Republics. In the south the salient of peninsular Ontario thrusts far into the heart of the United States. In the east the salient of Labrador and the Island of Newfoundland commands the shortest crossings of the North Atlantic Ocean and links Canada geographi-

cally with Britain and France. In the west the broad arc of land between Vancouver in southern British Columbia and Whitehorse in Yukon Territory provides the shortest crossings of the North Pacific Ocean between continental North America and the Far East. Canada thus lies at the crossroads of contact with the principal powers and some of the most populous areas of the world.

1.—Approximate Land and Freshwater Areas, by Province or Territory

NOTE.—A classification of land areas as agricultural, forested, etc., is given in Chapter X on Land Use and Renewable Resource Development.

Province or Territory	Land	Freshwater	Total	Percentage of Total Area
	sq. miles	sq. miles	sq. miles	
Newfoundland.....	143,045	13,140	156,185	4.1
Island of Newfoundland.....	41,164	2,195	43,359	1.1
Labrador.....	101,881	10,945	112,826	3.0
Prince Edward Island.....	2,184	—	2,184	0.1
Nova Scotia.....	20,402	1,023	21,425	0.6
New Brunswick.....	27,835	519	28,354	0.7
Quebec.....	523,860	71,000	594,860	15.4
Ontario.....	344,092	68,490	412,582	10.7
Manitoba.....	211,775	39,225	251,000	6.5
Saskatchewan.....	220,182	31,518	251,700	6.5
Alberta.....	248,800	6,485	255,285	6.6
British Columbia.....	359,279	6,976	366,255	9.5
Yukon Territory.....	205,346	1,730	207,076	5.4
Northwest Territories.....	1,253,438	51,465	1,304,903	33.9
Franklin.....	541,753	7,500	549,253	14.3
Keewatin.....	218,460	9,700	228,160	5.9
Mackenzie.....	493,225	34,265	527,490	13.7
Canada.....	3,560,238	291,571	3,851,809	100.0

In size, Canada is the largest country in the Western Hemisphere and the second largest country in the world. Its area of 3,851,809 sq. miles may be compared with that of the Union of Soviet Socialist Republics, 8,649,539 sq. miles,* China (including Taiwan and Pescadores), 3,705,408 sq. miles,* the United States of America (including Alaska and Hawaii), 3,615,211 sq. miles,* and Brazil, 3,286,488 sq. miles.* It is more than forty times the size of Britain and eighteen times that of France. The immense size of the country, while encompassing many resources and seeming to afford much scope for settlement, imposes its own burdens and limitations, particularly because much of the land is mountainous and rocky or is under an arctic climate. The developed portion is probably not more than one third of the total; the occupied farm land is less than 8 p.c. and the productive forest land 25 p.c. of the total. The population of Canada, estimated at 20,405,000 as at June 1, 1967, may be compared with 194,572,000† for the United States (including Alaska and Hawaii) (1965) and with 82,222,000† for Brazil (1965).

The mileages in Table 2 are another indication of the size of Canada. They show the length of communication facilities required between the larger cities, between outlying industrial communities built up around large mining or smelting projects and the nearest cities, and between northern outposts and the supplying cities. In this table, mileage given is for the major means of transport used between the points concerned; air mileages are given for most transcontinental distances.

The length of Canada's southern border adjoining the United States is 3,986.8 miles and the length of the Yukon-British Columbia border adjoining Alaska is 1,539.8 miles.

* United Nations Statistical Yearbook, 1966.

† United Nations Population and Vital Statistics Report, Apr. 1, 1967.

2.—Travel Distances between Certain Cities and Other Points of Interest in Canada

NOTE.—The dash used in this table indicates that the distance concerned is of no particular interest. In each case the mileage given is for the type of travel most generally used—road (H), rail (R), air (A) or water (W); air mileages are given for most transcontinental distances. Water and air routes are given in nautical miles.

	To	Halifax	Montreal	Quebec	Ottawa	Toronto	Winnipeg	Edmon- ton	Van- couver
From		miles	miles	miles	miles	miles	miles	miles	miles
St. John's, Nfld.....	W	531	W 1,043	W 904	A 1,137	W 1,336	—	—	A 3,381
Charlottetown, P.E.I.....	H	151	—	—	A 638	—	—	—	—
Halifax, N.S.....	—	—	H 824	H 657	A 625	H 1,164	—	—	A 2,945
Fredericton, N.B.....	H	298	H 526	H 359	A 455	—	—	—	—
Saint John, N.B.....	H	276	H 593	H 426	H 719	H 933	—	—	—
Chibougamau, Que.....	—	—	—	R 608	—	—	—	—	—
Montreal, Que.....	R	840	—	H 167	H 126	H 340	A 1,170	A 1,938	A 2,460
Quebec, Que.....	—	—	H 167	—	A 242	H 507	A 1,421	—	A 2,596
Schefferville, Que.....	—	—	R 357	R 357	—	—	—	—	—
Sept Îles, Que.....	—	—	W 430	W 291	—	—	—	—	—
Fort William, Ont.....	—	—	W 430	W 291	—	—	—	—	—
Hamilton, Ont.....	—	—	W 1,055	W 1,194	R 878	W 762	R 419	R 1,219	R 1,892
Ottawa, Ont.....	—	—	H 382	H 549	H 290	H 42	—	—	—
Ottawa, Ont.....	A 1,137	H 126	H 293	—	—	H 248	A 1,077	A 1,843	A 2,254
Sudbury, Ont.....	—	—	—	—	—	H 244	R 945	—	—
Toronto, Ont.....	W 1,188 ¹	H 340	H 507	A 244	—	—	A 941	A 1,709	A 2,233
Churchill, Man.....	—	—	—	—	—	—	R 992	—	—
Lynn Lake, Man.....	—	—	—	—	—	—	R 723	—	—
Winnipeg, Man.....	—	A 1,170	—	—	A 1,077	A 941	—	R 800	R 1,473
Regina, Sask.....	—	R 1,764	—	—	R 1,653	R 1,587	R 356	R 512	R 1,117
Saskatoon, Sask.....	—	—	—	—	—	—	R 470	R 330	R 1,095
Uranium City, Sask.....	—	—	—	—	—	—	—	A 399	A 877
Calgary, Alta.....	—	—	—	—	—	R 2,063	R 832	R 194	R 641
Edmonton, Alta.....	—	R 2,159	—	—	R 2,041	R 2,007	R 800	A 164	R 765
Fort St. John, B.C.....	—	—	—	—	—	—	—	A 353	A 460
Kitimat, B.C.....	—	—	—	—	—	—	—	—	R 728
Prince Rupert, B.C.....	—	—	—	—	—	—	—	—	W 420
Vancouver, B.C.....	A 2,945	A 2,460	R 3,042	R 2,770	A 2,233	A 1,171	R 956	W 477	—
Victoria, B.C.....	A 2,916	—	—	A 2,301	—	—	R 765	—	W 81
Dawson, Y.T.....	—	—	—	—	—	A 979	A 274	A 573	—
Whitehorse, Y.T.....	—	—	—	A 2,842	—	—	H 1,283	A 868	—
Frobisher, N.W.T.....	—	A 1,131	—	—	—	—	A 1,698	A 2,158	—
Inuvik, N.W.T.....	—	A 2,884	—	—	—	—	A 1,872	A 1,228	A 1,688
Yellowknife, N.W.T.....	—	—	—	—	A 2,498	—	A 1,222	A 578	A 1,047

¹ Via Strait of Canso.

Politically, Canada is divided into ten provinces and two territories. Each province is sovereign in its own sphere and administers its own natural resources, and upon such resources, as related to topography, position and climate, is based the economy of the province. The resources of the Yukon and Northwest Territories, because of the remoteness, the great extent and the meagre and scattered populations of these areas, are administered by the Federal Government.

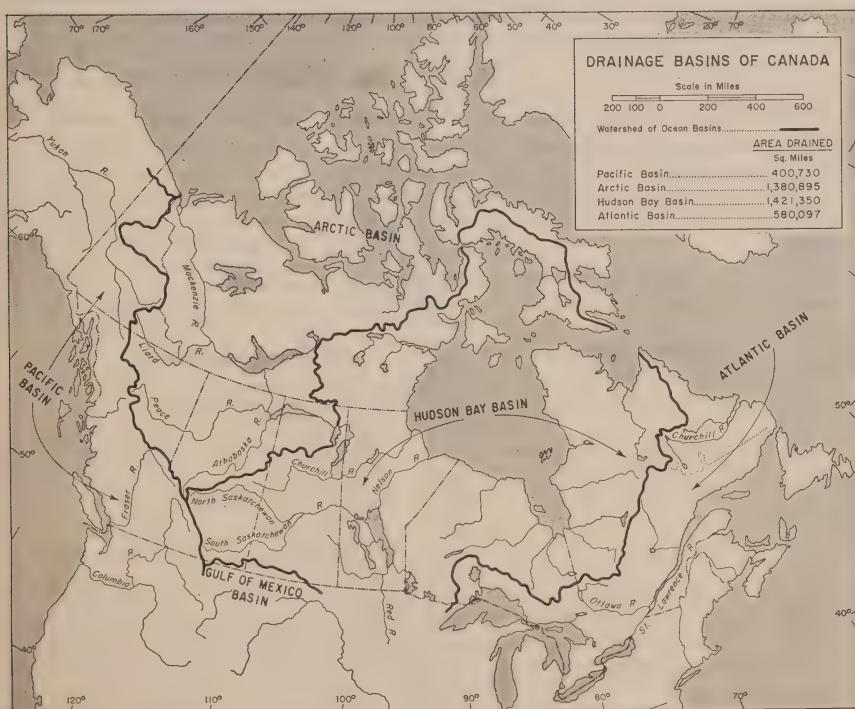
The main physical and economic characteristics of each province and territory are described in some detail in the 1963-64 Year Book; this article is available in reprint form. Also, it should be mentioned that the economic development of the country as a whole, based in the first instance on physical features and later on other factors, has formed regions quite distinct from the political divisions. These economic regions are described in an article appearing in the 1962 Year Book at pp. 17-23.

The Canadian Permanent Committee on Geographical Names, administered by the Department of Energy, Mines and Resources, deals with all questions of geographical nomenclature affecting Canada and undertakes research and investigation into the origin and usage of geographical names. The Committee is composed of representatives of the federal mapping agencies and other federal agencies concerned with nomenclature and a representative appointed by each province.

Subsection 1.—Inland Waters

The inland waters of Canada (not including saltwater areas that are a part of Canada) are extensive, constituting about 7.6 p.c. of the total area of the country. Aside from their basic essentiality to the support of life, Canada's fast-flowing rivers and chains of lakes have had a great bearing on the development of the country and on its economic and social well-being. In the early days of exploration and settlement, they were the avenues of transportation and often the source of subsistence. These functions have now diminished in importance; with the exception of the St. Lawrence and certain water routes in the interior and the Far North, the rivers and lakes have assumed other roles in the domestic, industrial, agricultural and recreational life of the people. They still serve as efficient carriers of pulpwood from the forests to the mills and their waters are harnessed to provide power for industry or are dammed and diverted to irrigate and bring life to otherwise waste land.

The inland waters of Canada are best studied by segregating the main drainage basins. The Atlantic drainage basin is the most important, being dominated by the Great Lakes-St. Lawrence system which drains an area of approximately 678,000 sq. miles and forms an unequalled navigable inland waterway through a region rich in natural and industrial resources. From Duluth, Minn., at the head of Lake Superior to Belle Isle at the entrance to the Gulf of St. Lawrence the distance is 2,280 miles. The entire drainage area to the north of the St. Lawrence and the Great Lakes is occupied by the southern fringe of the Canadian Shield—a rugged, rocky, plateau region over the edge of which tumble many swift-flowing tributary rivers. These rivers, as well as the St. Lawrence itself, provide the electric power necessary to operate the great industries of the area. South of the St. Lawrence, the smaller rivers are important locally. The St. John, for instance, drains a fertile area and provides most of New Brunswick's hydro power.



The Hudson Bay drainage basin, although the largest in area, is the least important economically. Only the Nelson and Churchill Rivers have power potential within economical distance of settled areas. The two main branches of the Saskatchewan River, tributary to the Nelson, drain one of Canada's great agricultural regions and are now the bases of important irrigation projects.

The Arctic drainage basin is dominated by the Mackenzie, one of the world's longest rivers, which flows 2,635 miles from the head of the Finlay River to the Arctic Ocean and drains an area in the three westernmost provinces of approximately 700,000 sq. miles. Except for a 16-mile portage in Alberta, barge navigation is possible from the end of steel at Waterways on the Athabasca River to the mouth of the Mackenzie, a distance of 1,700 miles.

The rivers of the Pacific basin rise in the mountains of the Cordilleran Region and flow to the Pacific Ocean over tortuous, precipitous courses, rushing through steep canyons and tumbling over innumerable falls and rapids. They provide power for large hydro developments and in season swarm with salmon returning inland to their spawning grounds. The major rivers of the basin are the Fraser which rises in the Rocky Mountains and toward its mouth flows through a rich agricultural area, the Columbia which is an international river with a total fall of 2,650 feet during its course and has thus a tremendous power potential, and the Yukon River which is also an international river but, though the largest on the Pacific slope, is at present relatively unimportant economically.

Table 3 lists the principal rivers of Canada and their tributaries. The tributaries and sub-tributaries are indicated by indentation of names; thus the Ottawa and other rivers are shown as tributary to the St. Lawrence, and the Gatineau and other rivers as tributary to the Ottawa.

3.—Lengths of Principal Rivers and Their Tributaries

Drainage Basin and River	Length	Drainage Basin and River	Length
	miles		miles
Flowing into the Atlantic Ocean		Flowing into the Atlantic Ocean—concluded	
St. Lawrence (to head of St. Louis, Minn.).....	1,900	St. John.....	418
Ottawa.....	696	Romaine.....	270
Gatineau.....	240	Natashquan.....	241
du Lièvre.....	205	Moisie.....	210
Coulonge.....	135	Churchill.....	208
Madawaska.....	130	Exploits.....	153
Rouge.....	115	Naskaupi.....	152
Mississippi.....	105	Canairiktok.....	139
Petawawa.....	95	Eagle.....	138
South Nation.....	90	Miramichi.....	135
Dumoine.....	80	Marguerite.....	130
North.....	70	Gander.....	102
North Nation.....	60		
Saguenay (to head of Peribonca).....	475	Flowing into Hudson Bay	
Peribonca.....	280	Nelson (to head of Bow).....	1,600
Mistassini.....	185	Saskatchewan (to head of Bow).....	1,205
Ashuapmucuan.....	165	South Saskatchewan.....	865
Saint-Maurice.....	325	Red Deer.....	385
Mattawin.....	100	Bow.....	315
Manicouagan (to head of Racine de Bouleau).....	310	Belly.....	180
Outardes.....	270	North Saskatchewan.....	760
Bersimis.....	240	Red (to head of Sheyenne).....	545
Richelieu.....	210	Assiniboine.....	590
St. Francis.....	165	Souris.....	450
Chaudière.....	120	Qu'Appelle.....	270
Via the Great Lakes—		Winnipeg (to head of Firesteel).....	475
French (to head of Sturgeon).....	180	English.....	330
Sturgeon.....	110	Churchill.....	1,000
Grand.....	165	Beaver.....	305
Thames.....	163	Koksoak (to head of Caniapiscou).....	660
Spanish.....	153	Caniapiscou.....	575
Trent.....	150	Severn (to head of Black Birch).....	610
Mississagi.....	140	Albany (to head of Cat).....	610
Nipigon (to head of Ombabika).....	130	Dubawnt.....	580
Moir.....	60	Eastmain.....	510
Thessalon.....	40		

3.—Lengths of Principal Rivers and Their Tributaries—concluded

Drainage Basin and River	Length	Drainage Basin and River	Length
	miles		miles
Flowing into Hudson Bay—concluded		Flowing into the Pacific Ocean—concluded	
Fort George (to Nicheum Lake).....	480	North Thompson.....	210
Attawapiskat.....	465	South Thompson (to head of Shuswap)....	206
Kazan.....	455	Nechako.....	287
Nottaway (to head of Waswanipi).....	400	Stuart (to head of Driftwood).....	258
Waswanipi.....	190	Chilcotin.....	146
Nelson (to head of Lake Winnipeg).....	400	West Road (Blackwater).....	141
Rupert.....	380	Skeena.....	360
Red (to head of Lake Traverse).....	355	Bulkley (to head of Maxam Creek).....	160
George (to Hubbard Lake).....	345	Stikine.....	335
Moose (to head of Mattagami).....	340	Alsek.....	260
Abitibi.....	340	Nass.....	236
Mattagami.....	275		
Missinabi.....	265	Flowing into the Arctic Ocean	
Hayes.....	300		
Winisk.....	295	Mackenzie (to head of Finlay).....	2,635
Whale.....	270	Peace (to head of Finlay).....	1,195
Harricanaw.....	250	Finlay.....	250
Great Whale.....	230	Smoky.....	245
Leaf.....	165	Little Smoky.....	185
Flowing into the Pacific Ocean		Parsnip.....	145
Yukon (mouth to outlet of Tagish Lake).....	1,587	Athabasca.....	765
Yukon (Int. Boundary to head of Nisutlin)...	714	Pembina.....	210
Porcupine.....	448	Liard.....	755
Pelly.....	330	South Nahanni.....	350
Stewart.....	331	Petitot.....	295
Teslin.....	215	Fort Nelson.....	260
White.....	161	Hay.....	530
Columbia (total).....	1,150	Peel (to head of Ogilvie).....	425
Columbia (in Canada).....	459	Arctic Red.....	310
Kootenay (total).....	407	Slave.....	258
Kootenay (in Canada).....	276	Twitya.....	200
Fraser.....	850	Back.....	605
Thompson (to head of North Thompson).....	304	Coppermine.....	525
		Anderson.....	430
		Horton.....	275

The outstanding lakes of Canada are the Great Lakes, although only parts of these are in Canadian territory. The International Boundary between Canada and the United States passes through Lakes Superior, Huron, St. Clair, Erie and Ontario. Details are given in Table 4. There are no tides in the Great Lakes although there is considerable variation in water levels caused by strong winds.

4.—Elevations, Areas and Depths of the Great Lakes

Lake	Elevation Above Sea Level	Length	Breadth	Maximum Depth	Total Area	Area on Canadian Side of Boundary
	ft.	miles	miles	ft.	sq. miles	sq. miles
Superior.....	602.23	383	160	1,301	32,483	11,524
Michigan (U.S.A.).....	580.77	321	118	923	22,400	—
Huron.....	580.77	247	101	748	23,860	15,353
St. Clair.....	575.30	26	24	21	432	270
Erie.....	572.40	241	57	209	9,889	4,912
Ontario.....	245.88	193	53	775	7,313	3,849

Other large lakes of Canada, ranging in area from 9,500 to 12,300 sq. miles, are Lake Winnipeg, Great Slave Lake and Great Bear Lake. Apart from these, notable for size, are innumerable lakes scattered over that major portion of Canada lying within the Canadian Shield. In an area of 6,094 sq. miles, accurately mapped, south and east of Lake Winnipeg, there are 3,000 lakes. In an area of 5,294 sq. miles, accurately mapped, southwest of Reindeer Lake in Saskatchewan, there are 7,500 lakes.

5.—Elevations and Areas of Principal Lakes, by Province—concluded

Province and Lake	Elevation ft.	Area sq. miles	Province and Lake	Elevation ft.	Area sq. miles
Saskatchewan—			British Columbia—concluded		
Amisk.....	964	168	Eutsuk.....	2,817	96
Athabasca (total, 3,120) part.....	699	2,180	François.....	2,345	91
Besnard.....	1,278	72	Harrison.....	30	87
Black Birch.....	1,517	54	Kootenay.....	1,745	168
Candle.....	1,621	56	Kotcho.....	1,970	31
Canoe.....	1,415	78	Lower Arrow.....	1,370	59
Churchill.....	1,382	213	Okanagan.....	1,123	136
Cold (total, 138) part.....	1,756	46	Ootsa.....	2,666	50
Cree.....	1,570	446	Quesnel.....	2,380	100
Cumberland.....	871	98	Shuswap.....	1,142	120
Deschambault.....	1,072	208	Stuart.....	2,230	139
Doré.....	1,306	248	Tagish (total, 130) part.....	2,152	78
Île à la Crosse.....	1,380	166	Takla.....	2,260	102
Kamuchawie (total, 57) part.....	1,157	26	Teslin (total, 142) part.....	2,250	58
Kipahigan (total, 60) part.....	966	31	Upper Arrow.....	1,401	88
Lac la Loche.....	1,460	76			
Lac la Plonge.....	1,476	90	Yukon Territory—		
Lac la Ronge.....	1,198	552	Aishihik.....	3,001	107
Last Mountain.....	1,606	89	Atlin (total, 299) part.....	2,192	1
Montreal.....	1,608	162	Kluane.....	2,525	184
Namew (total, 80) part.....	872	72	Kusawa.....	2,200	56
Nemeiben.....	1,259	63	Laberge.....	2,100	87
Peter Pond.....	1,382	302	Tagish (total, 130) part.....	2,152	52
Pinehouse.....	1,262	159	Teslin (total, 142) part.....	2,239	84
Primrose (total, 188) part.....	1,964	180			
Quill.....	1,703	236	Northwest Territories—		
Reindeer (total, 2,467) part.....	1,150	2,096	Aberdeen.....	261	475
Saskatchewan.....	1,827	171	Artillery.....	1,190	153
Sisipuk (total, 103) part.....	919	32	Ayimer.....	1,230	340
Smoothstone.....	1,573	110	Baker.....	30	975
Tazin.....	1,130	156	Clinton-Colden.....	1,226	253
Wollaston.....	1,300	796	Dubawnt.....	764	1,600
Alberta—			Faber.....	753	163
Athabasca (total, 3,120) part.....	699	940	Franklin.....	49	175
Beaverhill.....	2,202	80	Gras, de.....	1,865	345
Buffalo.....	2,566	56	Great Bear.....	511	12,275
Calling.....	1,949	55	Great Slave.....	513	10,980
Claire.....	699	545	Hardisty.....	643	107
Cold (total, 138) part.....	1,756	92	Hottah.....	640	377
Lac la Biche.....	1,784	94	Kaminuriak.....	320	360
Lesser Slave.....	1,892	461	La Martre.....	870	685
Mamawi.....	695	64	Mac Kay.....	1,415	250
Peerless.....	2,269	75	Maguse.....	..	540
Primrose (total, 188) part.....	1,964	8	Marian.....	513	90
Sullivan (variable).....	2,651	62	Nueltin (total, 850) part.....	875	580
Utikuma.....	2,115	85	Nutarawit.....	..	350
British Columbia—			Pelly.....	501	331
Adams.....	1,334	52	Point.....	1,229	295
Atlin (total, 299) part.....	2,192	298	Rae.....	692	74
Babine.....	2,332	194	Schultz.....	250	110
Chilko.....	3,842	75	Thaolinton.....	496	160
			Yathkyed.....	461	860

Subsection 2.—Coastal Waters

The coastline of Canada, one of the longest of any country in the world, comprises the following estimated mileages:—

Mainland—

Atlantic, 6,110; Pacific, 1,580; Hudson Strait, 1,245; Hudson Bay, 3,155; Arctic, 5,770; total, 17,860 miles.

Islands—

Atlantic, 8,680; Pacific, 3,980; Hudson Strait, 60; Hudson Bay, 2,305; Arctic, 26,785; total, 41,810 miles.

A comprehensive description of the coastal waters of Canada would require information from sciences such as oceanography, marine biology and meteorology. However, the basic factor in any study of the oceanic-continental margin is the physical relief of the sea floor, and the scope of the information presented here is therefore restricted to this and a few salient features of the Atlantic, Arctic and Pacific marginal seas surrounding Canada.

Atlantic.—Along this coastal area, the sea has inundated valleys and lower parts of the Appalachian Mountains as well as those of the Canadian Shield. The submerged continental shelf, protruding seaward from the shore, effects the transition from continental to oceanic conditions. This shelf is distinguished by great width and diversity of relief. From the coast of Nova Scotia its width varies from 60 to 100 miles, from Newfoundland 50 to 120 miles (at the entrance of Hudson Strait), and northward it merges with that of the Arctic Ocean. The outer edge of the shelf, known as the continental shoulder, is of varying depths of from 100 to 200 fathoms before the shelf suddenly gives way to the steep declivity leading to abyssal depths. The over-all gradient of the Atlantic continental shelf is slight but the whole area is studded with shoals, plateaux, banks, ridges and islands and the coasts of Nova Scotia and Newfoundland are rugged and fringed with islets and shoals. Off Nova Scotia the 40-fathom line lies at an average of 12 miles from the shore and constitutes the danger line for coastal shipping. The whole floor of the marginal sea appears to be traversed by channels and gullies cutting well into the shelf.

The main topographical features of the Atlantic marginal sea floor are attributed to glacial origin but land erosion is an important factor. Eroded materials are carried seaward by rivers, ice and wind, and wave action against cliffs and shore banks washes away enormous masses that are deposited over the surrounding sea floor. The topography of the continental sea floor is therefore constantly changing and navigation charts of Canada's eastern seaboard must be continuously revised.

Hudson Bay and Hudson Strait bite deeply into the Continent. Hudson Bay is an inland sea 250,000 sq. miles in area having an average depth of about 70 fathoms; the greatest charted depth in the centre of the Bay is 141 fathoms.

Hudson Strait separates Baffin Island from the continental coast and connects Hudson Bay with the Atlantic Ocean. It is 430 miles long and from 37 to 120 miles wide and its greatest charted depth of 481 fathoms is close inside the Atlantic entrance. Great irregularities of the sea floor are indicated but, except in inshore waters, few navigation hazards have been located.

Arctic.—The submerged plateau extending from the northern coast of North America is a major part of the great continental shelf surrounding the Arctic Ocean, on which lie all the Arctic islands of Canada, Greenland, and most of the Arctic islands of Europe and Asia. This shelf is most uniformly developed north of Siberia, where it is about 500 miles wide; north of North America it surrounds the western islands of the Archipelago and extends 50 to 300 miles seaward from the outermost islands.

The topography of the floor of the submerged part of this continental margin is only partly explored but sufficient has been charted to indicate, in common with continental shelves throughout the world, an abrupt break at the oceanward edge to the relatively steep declivity of the continental slope. This slope borders the western side of the Queen Elizabeth Islands and, from it, deep well-developed troughs enter between the groups of islands. Sills across Davis Strait, Barrow Strait and other channels, on which the depth is about 200 fathoms, interrupt the network of deep troughs and separate the Arctic basin from the Atlantic.

That part of the continental shelf bordering the Arctic Ocean in the vicinity of the Queen Elizabeth Islands (see below) is the subject of extensive study. Since 1959 a party based at the joint Canadian-United States weather station at Isachsen on Ellef Ringnes Island has been investigating the oceanography, hydrography, submarine geology, gravity, geomagnetic features and crustal seismic properties of the continental shelf area, carrying out physiographic, hydrological, permafrost and glaciological studies on the islands of the region, mapping the nature, distribution and movement of the sea ice, and running basic topographic control surveys. This work is continuing, with a party in the field from March to September each year, and should eventually cover all of the unmapped parts of the shelf between Greenland and Alaska. The investigations should yield detailed and accurate information on the physical and chemical composition and dynamic characteristics of the Arctic oceanic waters; the bathymetry of the continental shelf and slope and the straits and sounds of the Archipelago; the topography and structure of the shelf and the nature of its sediments, its underlying rocks and possible mineral resources; the structure and physical characteristics of the northern edge of the North American continental platform and its contact with the Arctic Ocean basin; the factors controlling the development of the Arctic landscape and the evolution of the islands; and the changes in sea level, glaciers, sea ice and climate in the recent geological past.

Pacific.—The marginal sea of the Pacific differs strikingly from the other marine zones of Canada. The hydrography of British Columbia is characterized by bold, abrupt relief—a repetition of the mountainous landscape. Numerous inlets penetrate the mountainous coast for distances of 50 to 75 miles. They are usually a mile or two in width and of considerable depth, with steep canyon-like sides. From the islet-strewn coast, the continental shelf extends from 50 to 100 sea miles to its oceanward limit where depths of about 200 fathoms are found. There the sea floor drops rapidly to the Pacific deeps, parts of the western slopes of Vancouver Island and the Queen Charlotte Islands lying only four miles and one mile, respectively, from the edge of the declivity. These great detached land masses are the dominant features of the Pacific marginal sea. As is to be expected in a region so irregular in hydrographic relief, shoals and pinnacle rocks are numerous, necessitating cautious navigation.

Subsection 3.—Islands

The largest islands of Canada are in the North and all experience an arctic climate. The northern group extends from the islands in James Bay to Ellesmere Island which reaches 83° 07'N. Those in the District of Franklin lie north of the mainland of Canada and are generally referred to as the Canadian Arctic Archipelago; those in the extreme north—lying north of the M'Clure Strait-Viscount Melville Sound-Barrow Strait-Lancaster Sound water passage—are known as the Queen Elizabeth Islands.

On the West Coast, Vancouver Island and the Queen Charlotte Islands are the largest and the most important but the coastal waters are studded with many small rocky islands.

The Island of Newfoundland forming part of the Province of Newfoundland, the Province of Prince Edward Island, Cape Breton Island forming part of the Province of Nova Scotia, Grand Manan and Campobello Islands forming part of the Province of New Brunswick, and Anticosti Island and the Magdalen group included in the Province of Quebec are the largest islands off the East Coast.

Notable islands of the inland waters include Manitoulin Island (1,068 sq. miles in area) lying in Lake Huron, the so-called Thirty Thousand Islands of Georgian Bay and the Thousand Islands in the outlet from Lake Ontario into the St. Lawrence River.

6.—Areas of Principal Islands, by Region

Region and Island	Area	Region and Island	Area
	sq. miles		sq. miles
Arctic Archipelago—		Hudson Bay and Strait—concluded	
Northern Region (Queen Elizabeth Islands)—		Mansel.....	1,285
Ellesmere.....	82,119	Akimiski (James Bay).....	1,137
Devon.....	20,861	Belcher (total for group).....	1,118
Melville.....	16,369	Resolution.....	387
Axel Heiberg.....	15,779	Salisbury.....	312
Bathurst.....	7,609	Big.....	310
Prince Patrick.....	6,081	Akpatok (Ungava Bay).....	296
Ellef Ringnes.....	5,139	Charlton (James Bay).....	119
Cornwallis.....	2,670	Edgell.....	106
Amund Ringnes.....	2,515	Killinek.....	104
Mackenzie King.....	1,922		
Borden.....	1,344	Pacific Coast—	
Cornwall.....	1,292	Vancouver.....	12,408
Eglinton.....	551	Queen Charlotte.....	3,705
King Christian.....	448	Graham.....	2,491
Loughheed.....	413	Moresby.....	991
Brock.....	396	Louise.....	108
Cameron.....	396	Lyell.....	63
Byam Martin.....	376	Kunghit.....	52
Meighen.....	293	Princess Royal.....	870
Graham.....	293	Pitt.....	537
North Kent.....	258	Banks.....	400
Emerald.....	251	King.....	324
Coburg.....	141	Porcher.....	199
Little Cornwallis.....	139	Nootka.....	198
Baillie Hamilton.....	114	Aristazabal.....	167
		Gilford.....	151
Southern Region—		Hawkesbury.....	143
Baffin.....	183,810	Hunter.....	136
Victoria.....	81,930	Calvert.....	118
Banks.....	29,230	Texada.....	117
Prince of Wales.....	12,830	Swindle.....	109
Somerset.....	9,370	Quadra.....	103
King William.....	4,955	McCaulley.....	102
Bylot.....	4,200	Gil.....	94
Prince Charles.....	3,639	Roderick.....	88
Stefansson.....	2,890	Gribbell.....	86
Air Force.....	596		
Wales.....	439	Atlantic Coast—	
Rowley.....	436	Newfoundland—	
Vansittart.....	386	Labrador Coast—	
Russell.....	349	South Aulatsivik.....	167
Jens Munk.....	330	Okak (total for two).....	113
White.....	301	Tunungayualok.....	72
Bray.....	281	North Aulatsivik.....	53
Foley.....	261		
Koch.....	183	Island—	
Matty.....	173	Newfoundland.....	43,359
Royal Geographical Society (the larger of two).....	173	Fogo.....	95
Jenny Lind.....	170	New World.....	73
Crown Prince Frederic.....	170		
Prescott.....	167	Gulf of St. Lawrence—	
Loks Land.....	164	Cape Breton.....	3,970
Melbourne.....	149	Anticosti.....	3,043
Tennent.....	118	Prince Edward.....	2,184
Gateshead.....	86	Magdalen (total for group).....	88
		Shippegan.....	59
Hudson Bay and Strait—		Bay of Fundy—	
Southampton.....	15,700	Grand Manan.....	55
Coats.....	2,206		

Subsection 4.—Mountains and Other Heights

The predominant geographical feature in Canada is the Great Cordilleran Mountain System which contains many peaks over 10,000 feet in height. The highest peak in Canada is Mount Logan in the St. Elias Mountains of Yukon Territory, which rises 19,850 feet above sea level. The highest elevations in all parts of the country are shown in Table 7 in feet above mean sea level.

7.—Principal Heights in each Province and Territory

NOTE.—Certain peaks, indicated by an asterisk (*), form part of the boundary between political divisions. Although their bases technically form part of both areas, they are listed only under one to avoid duplication. Elevations are given in feet above mean sea level.

Province and Height	Elevation	Province and Height	Elevation
	ft.		ft.
Newfoundland		Ontario	
Long Range Mountains—		Ogidaki Mountain.....	2,183
Lewis Hills.....	2,672	Batchawana Mountain.....	2,142
Gros Morne.....	2,644	Tip Top Mountain.....	2,099
Mount St. Gregory.....	2,251	Niagara Escarpment—	
Gros Paté.....	2,152	Osler Bluff.....	1,675
Blue Mountain.....	2,128	Blue Mountains.....	1,650
Table Mountain.....	1,900-1,950	Caledon Mountain.....	1,400
Blue Hills of Couteau—		High Hill.....	1,163
Peter Scout.....	1,600-1,650	Mount Nemo.....	1,000
Central Highlands—		Manitoba	
Main Topsail.....	1,822	Porcupine Hills.....	2,700
Mizzen Topsail.....	1,761	Duck Mountain.....	2,375
Torngat Mountains—		Riding Mountain.....	2,000
Cirque Mountain.....	5,160	Saskatchewan	
Mount Cladonia.....	4,725	Cypress Hills.....	4,567 ¹
Mount Elliot.....	4,550	Wood Mountain.....	3,275
Mount Tetragona.....	4,500	Vermilion Hills.....	2,500
Quartzite Mountain.....	3,930		
Blow Me Down Mountain.....	3,880		
Kaunajet Mountains—			
Bishops Mitre.....	4,060		
Finger Hill.....	3,390		
Nova Scotia		Alberta	
(Spot height—Cape Breton).....	1,747	Rocky Mountains—	
Franeby.....	1,405	*Mount Columbia.....	12,294 ²
Nutbly Mountain (Cobequid).....	1,204	The Twins.....	12,085
Dalhousie Mountain (Cobequid).....	1,115	Mount Alberta.....	11,874
North Mountain (4 miles NE of West Bay Road).....	875	*Mount Assiniboine.....	11,870 ²
Sporting Mountain.....	675	Mount Forbes.....	11,852
New Brunswick		Mount Temple.....	11,626
Mount Carleton.....	2,690	Mount Kitchener.....	11,500
Moose Mountain.....	1,490	*Mount Lyell.....	11,495 ²
Quebec		*Mount Hungabee.....	11,457 ²
Appalachian Mountains—		Mount Athabasca.....	11,452
Mount Jacques-Cartier (Shickshocks).....	4,160	*Mount King Edward.....	11,400 ²
Mount Richardson.....	3,887	Mount Brazeau.....	11,386
Mount Albert—		*Mount Victoria.....	11,365 ²
Albert Nord.....	3,554	*Snow Dome.....	11,340 ²
Albert Sud.....	3,775	Stutfield Peak.....	11,320
Mount Logan.....	3,700	*Mount Joffre.....	11,316 ²
Mégantic Mountain.....	3,550	*Deltaform Mountain.....	11,235 ²
Mattawa Mountain.....	3,500	*Mount Lefroy.....	11,230 ²
Bayfield Mountain.....	3,470	*Mount Alexandra.....	11,214 ²
Roundtop (Sutton Mountains).....	3,175	*Mount Sir Douglas.....	11,174 ²
Hereford Mountain.....	2,750	Mount Woolley.....	11,170
Barn Mountain.....	2,750	*Lunette Peak.....	11,150 ²
Orford Mountain.....	2,750	Mount Hector.....	11,148
Pinnacle Mountain.....	2,200	Diadem Peak.....	11,060
Brome Mountain.....	1,750	Mount Edith Cavell.....	11,033
Shefford Mountain.....	1,725	Mount Fryatt.....	11,026
Shield—		Mount Chown.....	10,930
Mount Tremblant.....	2,900	Mount Wilson.....	10,700
Mount Sainte-Anne.....	2,625	Clearwater Mountain.....	10,420
Mount Sir Wilfrid.....	2,569	Mount Coleman.....	10,286
Monteregian Hills—		Eiffel Peak.....	10,101
Saint-Hilaire Mountain.....	1,350	Pinnacle Mountain.....	10,062
Yamaska Mountain.....	1,350	Mount Rundle.....	9,838
Rougemont.....	1,200	The Three Sisters.....	9,744
Mount Royal.....	763	Mount Eisenhower.....	9,030
Mount Saint-Grégoire.....	750	Mount Edith.....	8,380
		British Columbia	
		Vancouver Island Ranges—	
		Mount Albert Edward.....	6,868
		Mount Arrowsmith.....	5,962

7.—Principal Heights in each Province and Territory—concluded

Province and Height	Elevation	Province and Height	Elevation
	ft.		ft.
British Columbia—concluded		Yukon Territory—concluded	
Coast Mountains—		Mount Wood.....	15,885
Mount Waddington.....	13,260	*Mount Vancouver.....	15,700 ⁴
St. Elias Mountains—		*Mount Hubbard.....	15,013 ⁴
*Mount Fairweather.....	15,300 ³	Mount Walsh.....	14,780
*Mount Root.....	12,860 ³	*Mount Alverstone.....	14,500 ⁴
Columbia Mountains—		McArthur Peak.....	14,253
Monashee Mountains—		Mount Augusta.....	14,100
Mount Begbie.....	8,956	Mount Kennedy.....	13,905
Storm Hill.....	5,300	Mount Strickland.....	13,818
Selkirk Mountains—		Mount Newton.....	13,811
Mount Dawson.....	11,023	Mount Cook.....	13,760
Adamant Mountain.....	10,980	Mount Craig.....	13,250
Grand Mountain.....	10,842	Badham Mountain.....	12,625
Iconoclast Mountain.....	10,646	Mount Malaspina.....	12,150
Mount Rogers.....	10,546	Mount Seattle.....	10,082
Rocky Mountains—			
Mount Robson.....	12,972	Northwest Territories	
Mount Clemenceau.....	12,001	Arctic Islands—	
Mount Goodsir.....	11,686	Baffin—	
Mount Bryce.....	11,507	Penny Highland (Ice Cap).....	8,200–8,500
Resplendent Mountain.....	11,240	Mount Thule.....	5,800 ⁵
Mount King George.....	11,226	Cockscomb Mountain.....	5,300 ⁵
Consolation Mountain.....	11,200	Barnes Ice Cap.....	3,700 ⁵
The Helmet.....	11,160	Knife Edge Mountain.....	2,493 ⁵
Whitehorn Mountain.....	11,130	Ellesmere—	
Mount Huber.....	11,051	United States Range.....	9,600 ⁵
Mount Freshfield.....	10,945	Commonwealth Mountain.....	7,500 ⁵
Mount Mummery.....	10,918	Mount Townsend.....	7,200 ⁵
Mount Vaux.....	10,891	Mount Jeffers.....	6,500 ⁵
*Mount Ball.....	10,865 ²	Mount Wood.....	5,900 ⁵
Mount Geikie.....	10,843	Mount Cheops.....	5,200 ⁵
Bush Mountain.....	10,770	Devon—	
Mount Sir Alexander.....	10,740	Ice Cap.....	6,190
Churchill Peak.....	10,500	Mackenzie King—	
Mount Stephen.....	10,495	Leffingwell Crags.....	1,500
Cathedral Mountain.....	10,464	Banks—	
Mount Gordon.....	10,346	Durham Heights.....	2,213
The President.....	10,297	Victoria—	
Odaray Mountain.....	10,175	Shaler Mountains.....	2,000
Mount Laussedat.....	10,035	Mount Bumpus.....	1,700
Mount Burgess.....	8,473	Mainland—	
Yukon Territory		Mount Sir James MacBrien.....	9,062
St. Elias Mountains—		Franklin Mountains—	
Mount Logan.....	19,850	Cap Mountain.....	5,175
*Mount St. Elias.....	18,008 ⁴	Mount Clark.....	4,798
Lucania Mountain.....	17,147	Pointed Mountain.....	4,610
King Peak.....	17,130	Nahanni Butte.....	4,579
Mount Steele.....	16,644	Richardson Mountains—	
		Mount Goodenough.....	3,219

¹ The summit of the Cypress Hills, with an elevation of 4,810 feet, is in Alberta.
 British Columbia boundary. ³ Part of the British Columbia-Alaska boundary.
 Alaska boundary. ⁵ Approximate.

² Part of the Alberta-Alaska boundary.
⁴ Part of the Yukon-Alaska boundary.

Section 3.—Federal Government Surveying and Mapping*

The needs for maps and surveys of Canada are met mainly by the Department of Energy, Mines and Resources. Although not all Branches of this Department make surveys and compile maps, many of them are involved in such work either wholly or partly. They compile topographical, geological and aeromagnetic maps, aeronautical and hydrographic charts, as well as specialized maps showing electoral district boundaries, land use and other features. In carrying out these tasks, the Department is guided partly by long-range plans based on general national needs and partly by requests from private enterprise and other government agencies. Some types of maps and surveys are also produced by

* Prepared by H. G. Classen, Public Relations and Information Services, Department of Energy, Mines and Resources, Ottawa.

provincial and private agencies and, to avoid duplication, the Department co-ordinates its work with these bodies. Other types—such as hydrographic and aeronautical charts—are produced exclusively by the Department.

The staff of the Department numbers about 4,000, of whom 1,000 are scientists and engineers and 1,300 are technicians. Each year, some 1,500 men are sent into the field to make surveys and to carry out research. Of the various Branches and Divisions, the following are particularly concerned with surveying and mapping: Surveys and Mapping Branch (geodetic and topographic surveys, electoral maps, aeronautical charts); Marine Sciences Branch (hydrographic charts of sea coasts and inland navigable waters); Geological Survey of Canada (geological features); and Observatories Branch (geophysical maps).

Types of Surveys.—In the field of geodesy, the Geodetic Survey maintains and extends a network of horizontal and vertical control points across Canada. At present, most of the extension work is in the northern parts of the country, whereas in the south greater density and the closing of gaps are the main tasks. The ultimate aim is to have horizontal and vertical control points no farther apart than 20 miles. During the summer of 1966, 20 geodetic parties were in the field extending or strengthening the horizontal and vertical network. In addition, the Geodetic Survey participated in the Satellite Triangulation program in co-operation with the United States Coast and Geodetic Survey. In this program, highly visible artificial satellites are photographed against a star background simultaneously at widely separated points, whose relative distances and positions can then be calculated.

The Topographical Survey is proceeding with the establishment of control points at smaller intervals and the mapping of the country at the most popular scales—1:25,000, 1:50,000 and 1:250,000. Complete map coverage of Canada at 1:250,000 is expected to be completed in 1967. This series will have approximately 925 maps which will be kept up to date by continuing revision. Of the 1:50,000 series, about 7,250 different maps are available, representing one third of Canada's land area. Another 500 maps at the 1:25,000 scale, or $2\frac{1}{2}$ inches to one mile, cover the major cities. The Topographical Survey had 36 officers in the field in 1966, and collaborated with the Geodetic Survey in several municipal control surveys aimed at providing Canadian cities with a firm, permanent basis for planning public works, redevelopment, expansion and other projects.

The Department of Energy, Mines and Resources also carries out legal or property surveys on Crown lands, such as the two northern Territories, the National Parks and Indian reserves; it participates in the survey and demarcation of interprovincial and territorial boundaries; is responsible for the preparation of descriptions and diagrams of federal electoral districts; and is the sole agency in Canada for the preparation of aeronautical charts showing airports, airways, and radio and other aids necessary for air navigation. During 1966, 17 field parties carried out legal surveys in public lands; all work connected with the northern boundaries of Manitoba and Saskatchewan, and the northern part of the boundary between the two provinces, was completed; and five interprovincial and territorial boundary commissions were active. Two new series of aeronautical charts were produced, one to inform aviators of standard instrument departure and the other for the use of traffic controllers at busy airports.

As a service to map-makers and others interested in that field, the Department maintains the National Air Photo Library, a collection of all air photographs taken by or for the Federal Government. During 1966, the Library received 60,803 new photos, bringing the total collection to well over 3,000,000. The sixth edition of the *Air Photo Coverage Map of Canada* was made available to assist users with their orders.

Hydrographic and oceanic surveys in Canada's navigable waters and the adjacent oceans are conducted by the Department's Marine Sciences Branch. Operations are directed from Ottawa and carried out through three regional offices—the Bedford Institute of Oceanography on the Atlantic Coast, the Pacific Coast Regional Office at Victoria and the Central Regional Office at Ottawa. For its surveys and research work, the Branch

operates a fleet of ships and launches, including some chartered vessels; this fleet is being modernized and two new ships are to be launched in 1967. Five of the major ships operate out of the Bedford Institute and four out of Victoria and one chartered vessel is based in the Great Lakes. Land-based parties, equipped with launches, operate on coastal and inland waters. Branch activities are planned to meet the needs of commerce, industry, fisheries, maritime defence, and weather and ice forecasting, and to provide general coastal charts for fishermen and recreational boating in the inland waters. In 1966, 953 navigational charts were on issue, of which 78 were first editions that year, and over a quarter of a million navigational charts were distributed.

Geological surveys provide an inventory of the potential mineral resources of Canada, aid in the discovery of mineral deposits, and assist in other aspects of the national economy influenced by geological factors. Each year approximately 100 parties are placed in the field, about half of whom are engaged in reconnaissance mapping. The first systematic reconnaissance of the geology of Canada is approaching completion, and attention is increasingly given to more fundamental research. Approximately 350,000 copies of maps and reports on geological surveys and research are distributed each year.

Both the Geological Survey and the Observatories Branch carry out geophysical surveys, resulting in maps showing such features as variations in terrestrial magnetism, gravity and seismicity. The geophysicists of the Geological Survey are interested mainly in outlining geological features and those of the Observatories aim at a better over-all knowledge of the earth. Considerable progress was made in 1966 in the preparation of a new earthquake zoning map for Canada for National Building Code purposes, in defining earthquake loads. This information is gathered primarily by a network of 23 first-order seismograph stations, and supplemented by temporary, local studies. In geomagnetism, Observatories staff has been working on the reduction and interpretation of data from the joint Canadian-Scandinavian three-component airborne survey carried out at the end of 1965. Preliminary results have been sent to the five Nordic countries participating. In gravity mapping, the emphasis continued to be placed on the measurement of the gravity field within Canada.

In the drafting and printing of the maps, highly advanced techniques for the automatic transfer of terrain features from air photos to drafting sheets and precise lithographing are combined to assure speedy processing of field data and the production of colourful, easily understood and relatively inexpensive maps for every type of user, from vacationer to town planner and from prospector to pilot. The Department operates a large modern plant to print the maps compiled by its several Branches as well as maps compiled by other government departments and agencies. The Surveys and Mapping Branch has a stock of almost 12,000,000 maps from which it distributes more than 1,000,000 annually.

Section 4.—Archaeology in Canada*

Introduction

Archaeology is taken here to mean the study of prehistory, that period preceding written documentation; in this context, written records mark the period historical and its study, history. Consequently, no reference is made to the lively field of historic sites archaeology which some consider a misnomer since they construe it to be the study of historic buildings, fortresses, houses, trading posts, etc., by the traditional research methods of historians augmented by the techniques of the archaeologist. For this review, prehistory is the subject matter and archaeology its scientific study. This imperfect dichotomy of history and prehistory would be still less applicable to many places outside the Western

* Prepared by scientists of the Human History Branch of the National Museum of Canada as follows: the Introduction and the section on Canadian Eskimo Archaeology by Dr. W. E. Taylor, Jr., Director of the Museum of Human History; the section on Prehistory of Eastern Canada by Dr. J. V. Wright, Chief of the Archaeology Division; and the section on Prehistory of Western Canada by Roscoe Wilmeth and W. N. Irving.

Hemisphere. For Canada, prehistory ends and history begins, generally, with European immigration and settlement, times that vary widely for areas adjacent to the three bordering oceans.

Canadian archaeology divides roughly into three periods of development—that prior to 1945, the first postwar decade, and the interval since 1955. The prewar period, reaching back before Confederation, sheltered a small band indeed, and those pioneers might, in most cases, be called amateurs, since formal training in Canadian archaeology did not exist and archaeology as a scientific discipline was only slowly evolving from mere antiquarianism. Those early workers had many backgrounds. Some, like Diamond Jenness, T. F. McIlwraith and Philleo Nash, were trained in general anthropology; others, and among the best, were self-taught researchers, like Wintemberg, Boyle, Nickerson and Ganong. For example, Nickerson was a railroader who did remarkably advanced field work in Manitoba, and Ganong, in Nova Scotia, was better known for the family chocolate company. Institutional centres were few indeed: McIlwraith taught at the University of Toronto; Boyle worked for the Royal Ontario Museum; and Jenness, Smith, Wintemberg and Leechman served long years in the National Museum of Canada. In addition to those employed in Canada, others from Britain, the United States and Denmark carried out vital research projects in Canada. It was a slow start with humble resources but such men laid the quiet foundation for a larger revealing of Canada's past.

In the 1945-55 period, expansion began. J. N. Emerson began teaching archaeology at the University of Toronto; K. E. Kidd launched his Ontario archaeological research for the Royal Ontario Museum; Charles E. Borden began his on-going work in British Columbia; Richard S. MacNeish and, later, T. E. Lee joined the National Museum of Canada; Wilfred Jury continued his work in southern Ontario; and Henry B. Collins, of the Smithsonian Institution, began a series of arctic projects co-sponsored by the National Museum of Canada. Nevertheless, in 1955 there were still only six people professionally employed in Canada as specialists in Canadian prehistory. A career in Canadian archaeology seemed scarcely more profitable than a career in poetry. A few Canadian students, however, trickled down to the United States where excellent doctoral training, now necessary as archaeology matured, was available and where students could compete for fellowships, then non-existent in Canada.

By 1955 the boom was rumbling in Americanist archaeology and soon it echoed in Canada. Between 1956 and 1967, the number of specialists in Canadian prehistory increased from six to over 30; courses are now given in some 15 universities and the number of museum-employed prehistorians shows a similar increase. The National Museum contains more archaeologists than did all Canada a decade ago. Further, Canadian archaeologists doing research in other countries are also increasing in number. Also, as may be expected, there are now far more funds available for research—not nearly enough but a happy contrast to the pittance of 20 years ago. Salaries and research support facilities have increased as Canadians began to realize the richness and worth of their older heritage and the signs seem to suggest a still-expanding demand. For example, the once sporadic trickle of publications has become a dependable stream of knowledge. Those who went south to graduate school have quite often returned and Canadian archaeology has been vitalized and enriched by the many United States archaeologists who have accepted Canadian positions to carry a large part of what is still very much a pioneer field. It is fair to note that in 1967 the first Canadian doctorate in Canadian archaeology was granted, and fitting that this occurred at Toronto where T. F. McIlwraith had sustained archaeology for 40 professorial years.

Being a pioneer research field, Canadian prehistory contains a provocative and heterogeneous host of research problems. And, too, there are problems of another sort such as inadequate funds, a pinching shortage of qualified scientists, weak antiquities legislation, inept administration of funds from overlapping agencies and the desperate demands for salvage excavation of sites being destroyed by natural agencies such as erosion and by other

effects such as urban expansion, road and dam construction, farming and witless looting. Hence, one could scarcely imagine a more stimulating time to be engaged in Canadian archaeology.

Perhaps a century after Confederation, the end of the beginning of the study of Canadian prehistory is near. Many of the interpretations offered in the following summary of that prehistory may eventually appear foolish in the clearer light of future research. It is suggested that what will endure is an appreciation that Canada has, not a 100 or 400 years, but perhaps 40,000 years of heritage—and, as archaeologists reveal it, Canadians will be broadened and enriched by that vast and varied background.

Prehistory of Eastern Canada

Eastern Canada, consisting of Ontario, Quebec and the Atlantic Provinces, south of the treeline, can be roughly divided into two major archaeological areas—Northern and Southern. Physiographically, the Northern area coincides with the Canadian Shield and the predominantly coniferous forests that cover northern Ontario, most of Quebec, and Newfoundland. The Southern area incorporates southern Ontario, the Eastern Townships and the St. Lawrence Valley of Quebec, and the Maritime Provinces, an area of predominantly hardwood forests.

There is clear evidence that the faunal and floral resources of the Southern area were able to support a far greater prehistoric population than the less kindly endowed Northern area. The richer archaeology of the south, however, has been complicated by the development of local cultural groups which interacted with each other and outside areas in a highly complex fashion. Conversely, the Northern area is characterized by a high degree of cultural similarity which allows certain general interpretations to be drawn from relatively limited archaeological data.

The sequence for both areas has been simplified and this review is intended to serve only as a rough outline of the prehistory of Eastern Canada. There is no reasonable doubt that new data will alter the current picture.

The earliest evidence of man in Eastern Canada dates between 10,000 and 11,000 years ago. In that period small bands of hunters, whose archaeological marker is a distinctive chipped stone lanceolate dart point, roamed the Southern area near the edge of the glacier which covered the north. These people were part of an extensive but thinly distributed population which entered the New World from Asia and rapidly occupied most of North America. Described under the archaeological term "Clovis" the dart heads of these early hunters have been found in direct association with the remains of extinct fauna such as the mammoth and mastodon, although direct evidence for the hunting of such animals in Eastern Canada is lacking.

The events that follow the Clovis occupation are somewhat complex. In western North America the Clovis culture became differentiated into a number of regional complexes which, on the basis of a shared stone-flaking technique called rippled flaking, are collectively termed "Plano". The Plano people like their Clovis ancestors were big game hunters who preyed predominantly on the bison although this generalization is naturally subject to the availability of other large mammals and the regional absence of the bison. Eastward penetration by Plano people seems limited to the Southern area of Ontario and the southern fringe of the Northern area of the same province, which was still covered by glacial ice 9,000 to 7,000 years ago. Their incomplete and weak migration into Eastern Ontario may be explained by the presence in the area of an earlier population. Although the data are very incomplete it appears that, as with Plano, the earlier Clovis population in the east evolved into various regional complexes which have been called Archaic. Early representatives of the Archaic cultures were, therefore, already in possession of most of Eastern Canada before the eastward movement of the Plano cultures began. Indeed, a number of sites have produced associated early Archaic and Plano artifacts indicating that the two populations were in direct contact with one another. Through a series of gradual stages, the Archaic population of the Southern area became more diversified with

numerous local varieties of Archaic culture developing in a number of different directions. Polished stone tools such as adzes and ground slate dart heads appear for the first time along with a wide range of chipped stone artifacts and bone tools. An elaborate burial cult involving the use of red ochre and grave offerings appears at an early date. The subsistence pattern of the Archaic stage also undergoes a change from the preceding Palæo-Indian stage represented by Clovis and Plano. Although big game is still of primary importance, a significant portion of the diet stems from smaller animals, fish and wild vegetable foods. In the Northern area a variety of Archaic markedly different from that noted in the south was apparently developing in a parallel fashion. The Northern complex with its large flaked choppers, blades, distinctive dart heads, and virtual absence of polished stone, probably began its development 6,000 years ago and gradually occupied the territory being vacated by the continental glacier then retreating into the Labrador highland. Contrary to the regional variations seen in the Archaic of the south, the Northern materials are amazingly similar over enormous tracts of land. In the Southern area the Archaic stage terminated with the appearance of pottery at approximately 1,000 B.C. In the northern bush, the Archaic stage is partly replaced by a complex possessing ceramics which entered the area roughly 2,700 years ago.

The introduction of pottery brought the Archaic stage to an end and introduced the Woodland stage of aboriginal cultural development. Divided into early, middle and late periods, the formation of the Woodland stage probably represents the most complex series of events to be seen in the archaeology of Eastern Canada. In the Southern area, Early Woodland pottery, indirectly derived from the southern United States, was adopted by the indigenous Archaic peoples in Quebec and, possibly, the Maritimes. The entry of these ceramics as a body into the remainder of Eastern Canada was blocked by the presence there of Middle Woodland ceramics which had entered the area from both the northwest and the south. Ceramics of the Middle Woodland period, however, appear to be the product of two forces coming from different directions. In the Northern area a Middle Woodland complex possessing distinctive ceramics of inferred Asiatic origin occupied the former territory of the Shield Archaic people in northern Ontario and western Quebec. Indeed, with the exceptions of the Clovis and, to a lesser extent, the Plano people of the Palæo-Indian stage and the Dorset Eskimo occupation of coastal Newfoundland-Labrador and parts of Quebec, the Laurel penetration appears to represent one of the few clear cases of an actual migration of people into Eastern Canada. In all other instances changes in the various cultures appear to have stemmed mainly from the borrowing and modifying of introduced traits and ideas by the indigenous Archaic people. The other Middle Woodland variety of ceramics, attributed to Hopewell of Illinois and Ohio, with possible origins in Central America, were being adopted by Archaic populations of the Southern area. These same people, however, were also adopting additional ceramics from Laurel, thereby ending up with a ceramic complex which represented a miscegenation of Laurel and Hopewell ideas grafted onto an Archaic base which perhaps already possessed Early Woodland ceramics. This confusing ceramic situation appears to have involved the entire Southern area. Other traits such as burial mound ceremonialism and the smoking pipe were also introduced from the Hopewell area. Most of northern Quebec and all of Newfoundland, however, did not accept ceramics and an Archaic stage of culture may have survived in that area to the time of European contact.

From this complex Middle Woodland base, most of the historic tribes of Eastern Canada must have evolved during the Late Woodland period. The exceptions are the Beothuk of Newfoundland who perhaps retained an Archaic form of culture. The Naskapi and some of the Cree-Montagnais of Quebec appear to have lacked pottery but the data are too limited to draw any meaningful conclusions. In the Maritimes the historic Micmac and Malecite probably had pottery but their prehistory is only now being explored. To the west, the Ojibwa, the Algonkin and most of the Cree possessed pottery, usually derived from a number of regional ceramic traditions and, indeed, portions of the Ojibwa and Cree can be traced archaeologically as far back as the tenth century. In the Southern area represented by Southern Ontario and portions of Quebec, the archaeological events that

led to those famed Iroquois tribes—the historic Huron, Petun, Neutral and Onondaga—are relatively well known. We know that corn was being grown before A.D. 1000 and that beans were acquired before A.D. 1450. Sunflower seeds and squash were also present but their dates of introduction are still unclear. Tobacco smoking appears to have become prevalent among these Iroquois people by A.D. 1350.

With the introduction of European goods, diseases and intrigues, the agents of these preceding 11,000 years of history become the subject matter of other disciplines.

Archaeological Work in Eastern Canada, 1966.—Of the eleven major archaeological field projects in 1966, more than half were supported in full or part by the National Museum of Canada contract system. Ontario led the way in activity with the following parties and projects: J. N. Emerson, University of Toronto, continued research on the historic Huron village of Cahigue visited by Samuel de Champlain in A.D. 1615; K. C. A. Dawson of Lakehead University excavated a Laurel village and burial mound site occupied before the birth of Christ; W. A. Kenyon of the Royal Ontario Museum investigated a burial mound along the Rainy River; K. Kidd and R. Vastokas of Trent University were involved in the excavation of a number of sites in the Trent River Valley; J. Bond of Windsor University directed a student excavation of a village site occupied by a little-known Late Woodland population; and J. F. Pendergast of Ottawa continued his investigation of prehistoric Onondaga sites of the St. Lawrence Valley.

In Quebec, C. A. Martijn of Montreal completed a three-year archaeological survey and excavation in the Lake Témiscouata region in the southeastern portion of the province. René Ribes of the Musée d'Archéologie, Trois-Rivières, continued work on sites in the St. Maurice River Valley. Finally, the Société d'Archéologie préhistorique du Québec of Montreal carried out excavation on a large and vitally important multi-component site at Pointe-aux-Buissons on the St. Lawrence River.

In Nova Scotia, salvage excavations were carried out by J. Erskine of Wolfville, N.S. Helen Devereux of the University of Calgary completed her third year of survey and excavation in central Newfoundland which was concentrated on the archaeological identification of the extinct Beothuk.

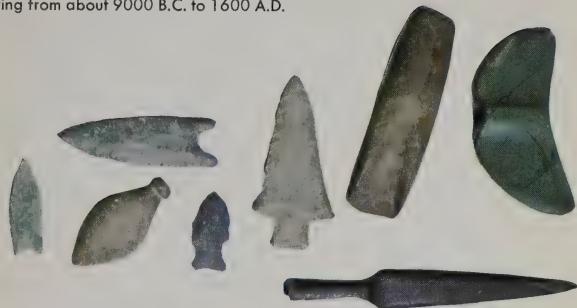
Prehistory of Western Canada

Western Canada, for the purpose of this discussion, is the area lying west of the Province of Ontario and Hudson Bay, and south of the Arctic littoral, i.e., the Provinces of British Columbia, Alberta, Saskatchewan and Manitoba, and most of the Yukon Territory and the Northwest Territories. It is an area of extremely varied topography, climate and natural resources, features that strongly affected the distribution and density of the aboriginal population.

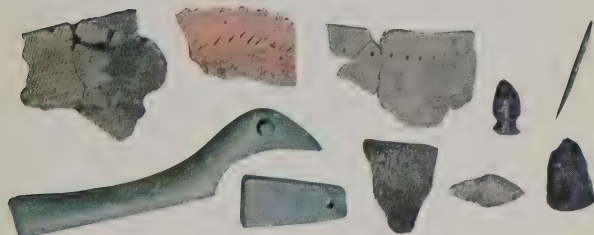
The date of man's first arrival in the area, coming from northeast Asia via the Bering Strait, remains uncertain. The crucial factors include the chronology of the advances and recessions of the Cordilleran and Continental glaciations, the question of the extent and duration of contact between the two ice sheets, and the problem of the length of duration of the Bering Strait land bridge—matters still in dispute. Human occupation has been documented south of the area within the period of the last major advance, indicating penetration of Western Canada at some earlier date. However, evidence for such earlier movements, still under study in Western Canada, cannot be summarized at the present time. The oldest cultures recognized date no earlier than 9,000 to 11,000 years ago.

The latter are represented by surface finds of projectile points of styles attributed to early big game hunters elsewhere in North America. These are relatively large lanceolate forms characterized by longitudinal fluting, and probably used as points for spears or darts. Two major styles, an earlier Clovis and a later Folsom form, are differentiated in terms of degree of fluting and other attributes. Where found to the south of our area, the earlier type is often associated with kill-sites of mammoth or mastodon, and the latter with various

Artifacts of the Pre-history of Eastern Canada
representing the Palæo-Indian, Archaic and
Early, Middle and Late Woodland cultures,
dating from about 9000 B.C. to 1600 A.D.



Palæo-Indian and Archaic (9000 B.C. — 1000 B.C.)



Early and Middle Woodland (1000 B.C. — 600 A.D.)



Late Woodland (600 A.D. — 1600 A.D.)

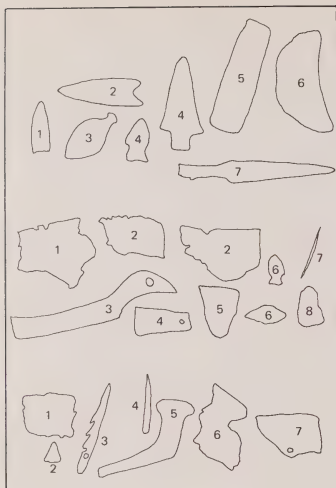
Artifacts of the Pre-history of Western Canada
representing the cultures of the Prairie
Region and of the Northwestern Coast.



Prairie Region



Northwestern Coast



Eastern Canada

Palæo-Indian and Archaic

1. Plainview point
2. Fluted point
3. Stone plummet
4. Projectile point

5. Stone gouge
6. Ground bannerstone
7. Copper spear point

Early and Middle Woodland

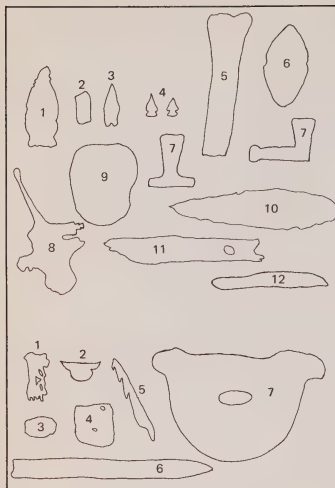
1. Pottery fragment
2. Pottery rim
3. Slate bird stone
4. Slate gorget

5. Pottery fragment (earliest known pottery)
6. Projectile point
7. Copper awl
8. Scraper

Late Woodland

1. Blackduck pottery rim
2. Taconite projectile point
3. Unilaterally barbed harpoon
4. Bone projectile point

5. Iroquois pottery pipe
6. Selkirk rim sherd
7. Onondaga rim sherd



Western Canada

Prairie Region

1. Chipped stemmed stone knife
2. End scraper
3. Indented-base point
4. Side-notched points
5. Bone flesher
6. Grooved stone club head

7. Stone pipe
8. Bison bone pierced with iron point
9. Grooved maul
10. Chipped stone blade
11. Bone shaft wrench
12. Marine shell pendant

Northwestern Coast

1. Comb carved of bone
2. Stone labret
3. Wooden labret
4. Bone pendant

5. Unilaterally barbed point
6. Ground slate dagger
7. Stone bark-shredder

Photographs by Warrander, Ottawa

kinds of extinct bison. In Western Canada, these point types are reported only from the southern part of the prairie area, suggesting that perhaps these cultures were replaced by later ones before the northern part of the prairie region was inhabitable. On the other hand, fluted points have been found far to the northwest, in unglaciated parts of Alaska; their absence from the intervening area remains to be explained.

The succeeding complexes, generally dated from about 8000 to 5000 B.C., are also known only from surface finds, in this case of lanceolate points, lacking flutes and exhibiting a fine parallel flaking technique. They are probably derived directly from the preceding ones, and are part of what is called the Plano Tradition. Big game hunting continued to be the basis of the economy, but the number and distribution of the finds indicate a considerable increase in population and an expansion northward into areas not previously occupied. Similar projectile points have been reported from the Yukon and the southern Northwest Territories, as well as extreme northern Manitoba.

Perhaps contemporary with the early big game hunters of the prairies was a still hypothetical complex called Old Cordilleran, characterized by the occurrence of bipointed, leaf-shaped projectile points. The centre for this complex was in British Columbia, but similar points have been reported from the Yukon and Northwest Territories. Radiocarbon dates indicate a relatively early occupation for at least one site in the Fraser River canyon. However, it has been questioned whether all points of this relatively simple form necessarily represent a single cultural group or time period. In any case, the evidence from Fraser Canyon indicates a quite different economy, in which dependence on salmon fishing already prevailed even at this early date, from that of the area east of the mountains.

In the succeeding period, lasting from approximately 3000 B.C. to about 1 A.D., a number of changes are noticeable. One is an increase in tempo, with alterations in artifact styles, particularly projectile points, following one another in more rapid succession than previously. Another is an apparent increase in the variety of food resources exploited, although this may reflect inadequate knowledge of the food economy of earlier times. Several local cultural variants now become recognizable, but the geographic distribution of certain artifact types indicates considerable contact between them.

In the prairie region, the earlier lanceolate projectile points are gradually replaced by smaller stemmed points with indented bases. The change apparently represents an evolutionary sequence, rather than a series of sharp breaks. Contemporary with the earlier part of this sequence are large side-notched points from southern Saskatchewan and Manitoba, which show affiliations with points from bison-kill and campsites in Nebraska and western Iowa. There are, in fact, many resemblances to what is known as the Archaic tradition in eastern United States and Canada, and it has been suggested that people from the east were moving into the prairie area with the improvement of the climate. Although bison seem to have remained the major food source, there is now evidence of the hunting of birds and small animals and the collecting of shell fish and other foods.

Certain of the point types characteristic of the Prairie occur also in the Boreal Forest west of Hudson Bay, where their relationship to the still hypothetical Shield Archaic tradition is somewhat unclear. The latter tradition is typified by large and small oval bifaces, rough core scrapers, and a few round-based lanceolate points. The same observations apply to the Barren Grounds, at least as far north as Chesterfield Inlet. However, from time to time after about 3000 B.C., the area was pre-empted by cultures from the Arctic, presumably Eskimoan. West of the 110th meridian, a series of cultures possessing some relationship to those of the prairies but with an increment of Asian traits not found to the east and south prevailed for a long but still unmeasured period of time.

Beyond the Rockies, in the Northwest Plateau, the evidence available indicates a continuation of the pattern associated with dependence on salmon fishing. Microblades, like those of the far northwest, are common but probably represent the diffusion of this tool type to the Plateau rather than the migration of northern populations. For the first time in Western Canada, house structures are reported, of semi-subterranean form. That the region was not isolated from the country east of the mountains is confirmed by the

occurrence in the Plateau of projectile point types like those of the Prairies, as well as the finding in Alberta of Plateau artifact types. By the end of this period on the coast of British Columbia, the Northwest Coast culture based on fishing and shell-fish collecting and recognizably similar to that of historic times, is in an early stage of development.

During the period from approximately 1 A.D. to the beginning of historic times, further development in the Prairie area centred around a dramatic increase in the importance of bison hunting. This shift followed the general adoption of the use of buffalo jumps, a hunting technique which consisted of driving the animals over cliffs or steep declines, where they were slaughtered by hunters waiting below. Concomitant with the increasing use of this technique is a continued diminution in the size of projectile points, culminating in the appearance of small, triangular, corner-notched and side-notched forms used as tips for arrows rather than for darts. The appearance of new tool forms for hide-working further reflects the concentration on bison hunting.

Another innovation of this period is the introduction of pottery-making. Occurring only sporadically in the early part of the period, ceramics gradually increased in importance, both in the Prairie area and in the Boreal Forest. Some of the wares show close relationships to the pottery of the woodland region of Minnesota or of the Middle Missouri area of North Dakota, while others seem to occur in Canada only and possibly are of northern origin. Evidence for the spread of population into the area is the presence in southern Alberta of an earthlodge village clearly derived from those of the Missouri.

Beyond the Prairie region, mixed economies continued to prevail, as combinations of hunting of a variety of birds and mammals, fishing, and shell-fish collecting. That relationships with the south continued is shown by the appearance of small corner-notched and side-notched points typical of the Prairie region in areas as far away as the southwest Yukon. In the Barren Grounds, even less information is available than for the previous period; occupations by both Eskimo and Indian groups are indicated, with the former gaining ascendancy in the early historic period.

In British Columbia, the way of life based on salmon fishing continued to develop, with increasing evidence for the importance of wood-working. Here also, small side-notched points made their appearance at about the middle of this period, gradually replacing earlier forms, and indicating the continuation of contact with the area east of the Rockies. Some time during this period the Athabaskan language stock may have spread to its present limits, which embrace a large portion of Western Canada.

Trade goods finally began to appear in the archaeological sites of Western Canada, ushering in the historic period. At this point, if not before, identifications of archaeological complexes with historic tribes can often be made. Such attempts are made difficult by the large-scale displacement of one group by another which resulted from the introduction of the fur trade and the use of fire arms and, in the Prairie area, of the horse. Nonetheless, the assignment of archaeological sites to such widely separated groups as the Salish and the Cree proceeds with growing confidence as excavation continues.

Archaeological Work in Western Canada, 1966.—During the 1966 season, archaeologists were engaged in a large number of field projects throughout Western Canada. Institutions and personnel involved included the National Museum of Canada (J. V. Wright, W. N. Irving, G. MacDonald, R. Wilmeth, J. P. Cook); the University of Manitoba (W. J. Mayer-Oakes, D. C. Jayes, J. V. Chism); the University of Saskatchewan (Z. S. Pohorecky, H. T. MacKie); Saskatchewan Museum of Natural History (G. C. Watson, A. J. Ranere); University of Alberta (A. L. Bryan, R. Gruhn, R. Bonnicksen, F. Taylor); University of Calgary (R. G. Forbis, B. Reeves, C. E. Eyman, J. F. V. Millar, W. C. Noble); Provincial Museum and Archives of Alberta (R. S. Kidd); University of British Columbia (C. E. Borden); Provincial Museum of British Columbia (D. N. Abbott). In addition to these investigations, valuable work was carried out by the provincial archaeological societies of Manitoba, Saskatchewan and Alberta.

The work of some of the institutions listed was in part supported through contracts with the National Museum of Canada. The orientation of the researchers has been either toward the development of regional sequences or toward the solution of broader problems which cut across provincial and national boundaries.

Geographically, most of this work was concentrated in the Prairie region. Other investigators, however, were employed in the Boreal Forest of northern Manitoba, the foothills of Alberta, coastal British Columbia, the southern Northwest Territories, and the northern Yukon. One National Museum of Canada party operated in Alaska, west of the Yukon Border, as well as in the southwest Yukon; another party worked under contract in southwestern Alaska.

Several hundred sites were recorded by surveyors, and over 20 sites, often stratified, were excavated or tested. The broad time span of these sites extended from the possibly pre-glacial age of a site in the Yukon to the historic period, represented by fur trading posts and by Indian camps which yielded European trade goods. Most of the sites, however, fell within a period of 1,000 years before and 1,000 years after the beginning of our era. Field work being carried out in 1967 will fill at least some of the geographical and temporal gaps in knowledge of the prehistory of Western Canada.

Canadian Eskimo Archaeology

Archaeology in arctic Canada began with the pioneering work of Therkel Mathiassen of the Nationalmuseet, Denmark, for in 1922-25 he worked in the Foxe Basin-northern Baffin Island area as archaeologist on the famous Fifth Thule Expedition. The Thule and Dorset cultures, noted below, were first defined in 1925 by Mathiassen and by Diamond Jenness of the National Museum of Canada, respectively. There were only a very few other pre-war archaeological forays into arctic Canada until 1948 when work resumed; its rate and range have since increased steadily with many more scientists available to exploit the remarkable financial and logistical improvements of the past 20 years. The improvements run from walking boots to sleeping bags, and from aeroplanes to archaeological methods. Surveys are being pushed into the vast, unstudied areas and intensive work is focusing on key regions while the recovered data are subject to more kinds of analysis than ever before.

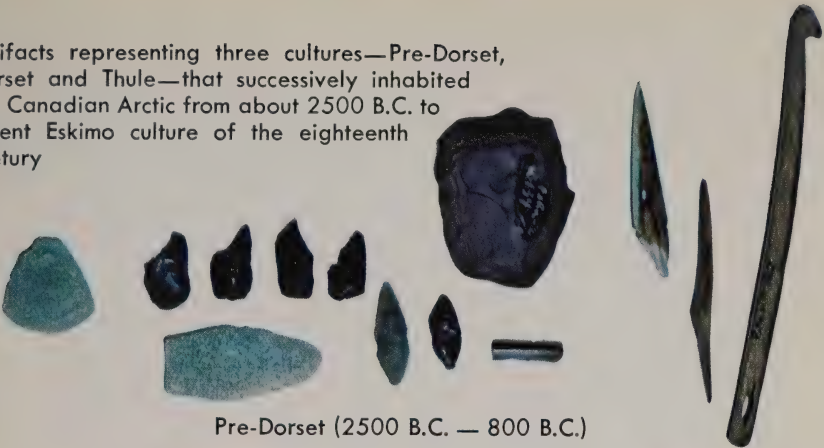
Although much indeed remains unknown, Canadian Eskimo origins can be traced back about 5,000 years to Bering Strait and from there the trail wanders away through several routes into Asia. Within the Canadian tundra the story seems readily divisible into four major periods or stages. First there was the Pre-Dorset culture stage of people with a basically Eskimo way of life and these drifted eastward across the deglaciated Canadian Arctic from Alaska to Greenland and Ungava. A culture stage, as yet best known in the Denbigh Flint complex, is the Alaskan parent culture of this population, and it probably existed there about 3000 B.C. As in the Denbigh Flint complex, artifact collections from Pre-Dorset sites are characterized by chipped flint tools, an inventory marked by burins and microblades, and these tool types echo an old Asian heritage. Pre-Dorset people, with a technology adapted to the tundra coast and interior, harpooned sea mammals, harvested fish and hunted caribou, musk-oxen and birds. Radiocarbon dates suggest that the small, seasonally nomadic bands of Pre-Dorset hunters reached north-eastern Greenland and Hudson Strait about 2000 B.C. The second major stage, Dorset culture, reveals again thinly scattered, small bands of hunters who moved with the seasons hunting seal, walrus, caribou, birds and other game and who, like the tourists now, exploited the annual summer runs of char in arctic rivers. These hunters used skin tents in summer and, for winter, sheltered in small settlements of a few, semi-subterranean huts. Toggling harpoons, barbed spears, chipped flint and rubbed slate tools, microblades, bone needles and adzes mark their remnant inventories. They probably made tailored fur clothing and skin boats and there is sound evidence for their having had small, man-hauled sleds. Albeit rare, a most remarkable product of the Dorset culture is its art, tiny carvings

in antler, ivory and wood, of animals, birds, fish, humans and grotesque monsters. Some are stylized or abstracted and others precisely realistic, and commonly they have been fashioned with a sureness of form and impressive sophistication. A recent analysis of 125 of these art pieces indicates they were not for amusement or decoration, not *l'art pour l'art*, but rather that this was an art of the supernatural, an art concerned with Shamanism, burial practices and sympathetic magic. Dorset culture has a rather different geographic distribution than Pre-Dorset although each covered a vast part of arctic North America: Pre-Dorset, coming from Alaska, reached at least as far south as Churchill in Manitoba, and to Mansel Island and Ivugivik in northwestern Quebec as well as to many points around the Greenland coast. Dorset is known as far west as Melville Island, Holman and Bernard Harbour, at several localities about Greenland and south to Cape Ray, the southwestern extremity of Newfoundland Island. Although found well down the east side of Hudson Bay, no Dorset sites are reported for the Bay's west coast south of Chesterfield Inlet.

It seems that in the centuries around 1000 B.C. to 800 B.C., Pre-Dorset evolved into Dorset culture within the Canadian central Arctic and very probably that change incorporated some ideas, some traits and techniques, diffused to the Dorset area from outside, possibly from Alaska, perhaps from the Barrenlands and perhaps, too, from prehistoric Indian cultures north of the Great Lakes and the St. Lawrence River. Dorset, an Eskimo culture so far as we know, persisted until about A.D. 1300. It began to disappear shortly after A.D. 900, being replaced by Thule culture which occupies the third major stage of Canadian Eskimo archaeology. Thule was a fully Eskimo culture with an original homeland on the north Alaskan coast. It was carried eastward across the Canadian Arctic to Greenland and Labrador by a population spread that nearly obliterated Dorset culture except in an archaeological sense. Unlike Dorset, Thule hunters harvested the baleen whales using umiaks and an elaborate whaling harpoon gear and, in further contrast to Dorset, had dogs, dog-pulled sleds and sturdy winter houses often built partly of whale bones. Their art is much less impressive. The fourth stage, that of the recent Central Eskimo, can be said to date from the eighteenth century when Thule culture evolved into that of the Canadian Eskimo as met by nineteenth century explorers. The greatest differences between Thule and recent Eskimo centred on the decline of baleen whaling, the consequently greater degree of nomadism, and a shrunken area of population distribution. Parenthetically, the Eskimos encountered by Martin Frobisher in 1576-77 were surely Thule culture Eskimo, including the marksman whose arrow caught Sir Martin in the seat of his pants. Conversely, the Skraelings encountered by Eric the Red in southwest Greenland and some met by his followers in Vinland were probably Dorset culture people. Later, Thule people in western Greenland left sites in which Danish archaeologists have found many and clear signs of Viking influence on the old, local Eskimo way of life.

Archaeological Work in the Canadian Tundra, 1966.—If arctic field research was very rare before 1945 and rather spotty in occurrence up to 1955, then the seven field projects reported here for 1966 do indeed reflect the marked increase of the past decade. In 1966, M. S. Maxwell, Michigan State University, continued work on some sites in the Lake Harbour region of the Northwest Territories; these sites, providing a remarkable chronological sequence of human occupation, range from an early Pre-Dorset site, radiocarbon-dated to 2130 B.C., through a series of Dorset, to Thule culture villages. This work, begun by Maxwell for the National Museum of Canada, will continue in 1967. In 1966, Elmer Harp, Dartmouth College, began a major experiment in the application of advanced aerial photographic techniques to regional archaeological survey in the tundra zone. The planned first stage of this work was completed in 1966 and, in 1967, Harp will take a crew to the selected area—the southeastern coast of Hudson Bay—for the field work phase of his project. In 1966, T. E. Lee, working for the Centre d'Études Nordique of Université Laval, excavated a site on Pamiok Island on the west side of Ungava Bay;

Artifacts representing three cultures—Pre-Dorset, Dorset and Thule—that successively inhabited the Canadian Arctic from about 2500 B.C. to recent Eskimo culture of the eighteenth century



Pre-Dorset (2500 B.C. — 800 B.C.)



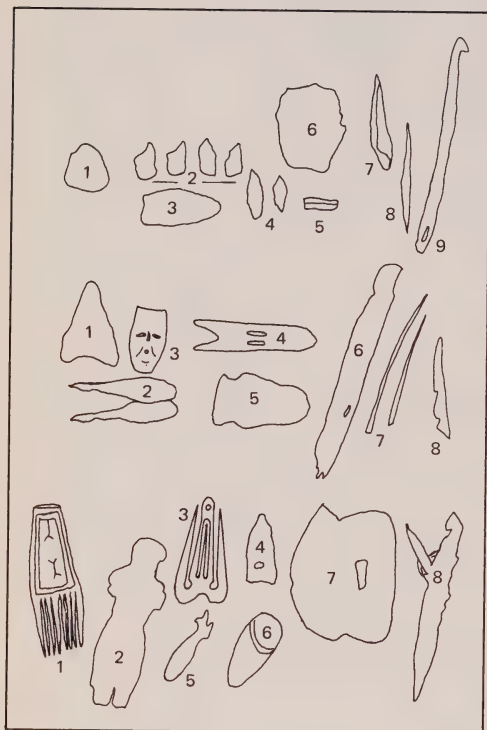
Dorset (800 B.C. — 1300 A.D.)



Thule (900 A.D. — 1750 A.D.)

Pre-Dorset

1. End scraper
2. Burins
3. Quartzite blade
4. Flint side blades
5. Microblade
6. Adze head
7. Harpoon head
8. Weapon side prong
9. Flint flaker



Dorset

1. Harpoon point
2. Ivory swans
3. Ivory maskette
4. Bone harpoon head
5. Chipped stone knife blade
6. Knife handle
7. Bone needles
8. Fish spear head

Thule

1. Ivory comb
2. Wooden doll
3. Ivory thimble holder
4. Ground slate point
5. Ivory bird figure with female torso and head
6. Ivory toggle in the form of a bear head
7. Ulu with slate blade
8. Wooden sea-gull hook

further work is planned there for 1967. In 1966, Bernard Saladin d'Anglure, of the Université de Montréal, was sponsored by the National Museum of Canada to prepare casts of a unique set of occurrences—Dorset-period petroglyphs of human faces or masks cut into outcropping soapstone bedrock. Saladin d'Anglure had found these during his 1961 and 1965 field research in the Wakeham Bay region on the south coast of Hudson Strait. Donald MacLeod, National Museum of Canada, while salvaging an early prehistoric Indian site near Twillingate in Newfoundland, discovered and sampled a large Dorset-period Eskimo site nearby. As a summer officer of the National Museum of Canada, Robert J. McGhee conducted survey and excavations at the Kuuk River, Kuujuaa River, and Holman regions of the west coast of Victoria Island in the Northwest Territories. McGhee found scant traces of Pre-Dorset settlement, productive early and middle Dorset period sites, some interesting Thule remains, small sites of the historic Copper Eskimo of the region and, perhaps most important of all, a site that seems to indicate an evolutionary transition from the prehistoric Thule culture to the historic Copper Eskimo culture.

Peripheral to arctic Canada, several archaeological parties took to the field in Alaska, three of them sponsored by or conducted by scientists of the National Museum of Canada. In Greenland, Danish archaeologists, generally with the sponsoring of the Nationalmuseumet in Copenhagen, continued their decades of arctic work and among the most pertinent is Count Eigil Knuth's persisting excavations of Pre-Dorset sites in northernmost Greenland.

PART II.—PUBLIC LANDS, WILDLIFE AND FLORA*

Section 1.—Federal and Provincial Public Lands

In Table 1, classifying the area of Canada by tenure, items 2, 3, 4 and 5 are obtained from Federal Government sources and items 1, 6, 7 and 8 from provincial government sources.

* No information on the flora of Canada is given in this publication but the reader is referred to a detailed special article on the subject, prepared by Dr. Homer J. Scoggan of the National Museum of Canada, which appears in the 1966 Year Book at pp. 35-61.

1.—Total Area classified by Tenure (circa) 1966

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
1. Privately owned land or land in process of alienation from the Crown.....	6,809	2,054	15,936	15,520	43,500	45,618
2. Federal lands other than leased lands, National Parks, Indian reserves and forest experiment stations.....	171	68	134	584	385 ¹	1,114
3. National Parks.....	153	7	517	79	²	12
4. Indian reserves and settlements.....	—	4	40	59	294	2,406
5. Federal forest experiment stations.....	—	—	—	35	7	41
6. Provincial lands other than Provincial Parks and provincial forest reserves.....	148,848	44	4,784	10,666	491,115	357,528 ³
7. Provincial Parks.....	87	1	14	4	53,081	5,863
8. Provincial forests.....	117	6	—	1,407	6,478	³
Totals.....	156,185	2,184	21,425	28,354	594,860	412,582

For footnotes, see end of table, p. 30.

1.—Total Area classified by Tenure (circa) 1966—concluded

Item	Man.	Sask.	Alta.	B.C.	Y.T. and N.W.T.	Canada
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
1. Privately owned land or land in process of alienation from the Crown.....	53,345	105,294	99,392	20,172	89	407,729
2. Federal lands other than leased lands, National Parks, Indian reserves and forest experiment stations.....	1,092	5,111	2,846	439	1,508,242 ⁴	1,520,186
3. National Parks.....	1,148	1,496	20,717 ⁵	1,671	3,625 ⁶	29,425
4. Indian reserves and settlements.....	816	1,914	2,541	1,320	11	9,405
5. Federal forest experiment stations.....	25 ⁷	—	23	—	12	143
6. Provincial lands other than Provincial Parks and provincial forest reserves.....	188,275	16,134	118,178	256,552	—	1,592,124
7. Provincial Parks.....	2,854 ⁸	1,803	2,321	10,023	—	76,051
8. Provincial forests.....	5,415 ⁸	119,948	9,267	76,078	—	218,716
Totals.....	251,000⁹	251,700	255,285	366,255	1,511,979	3,851,809⁹

¹ Includes Gatineau Park (107 sq. miles) and Quebec Battlefields Park (0.36 sq. mile) which are under federal jurisdiction but are not technically National Parks. ² Less than one square mile. ³ Sect. 46 of the Crown Timber Act which authorized provincial forest reserves was repealed Mar. 25, 1964; all such lands are included in item 6.

⁴ Includes 952,849 sq. miles set aside by Order in Council as native game preserves in which only Indians and Eskimos may hunt, but which are not regarded as National Parks. ⁵ Includes that part of Wood Buffalo Park in Alberta (13,675 sq. miles); this park, although established under the National Parks Act, is administered by the Department of Indian Affairs and Northern Development. ⁶ That part of Wood Buffalo Park in N.W.T.

⁷ This forest experiment area of 25 sq. miles is also included in National Parks figure. ⁸ Includes 1,945 sq. miles of provincial park land within provincial forest reserves. ⁹ Does not add because of duplications; see footnotes ⁷ and ⁸.

Federal Public Lands.—Public lands under the administration of the Federal Government comprise lands in the Northwest Territories including the Arctic Archipelago and the islands in Hudson Strait, Hudson Bay and James Bay, lands in Yukon Territory, ordnance and admiralty lands, National Parks and National Historic Parks and Sites, forest experiment stations, experimental farms, Indian reserves and, in general, all public lands held by the several departments of the Federal Government for various purposes connected with federal administration (see Table 1). These lands are administered under the Territorial Lands Act (RSC 1952, c. 263) and the Public Lands Grants Act (RSC 1952, c. 224) which became effective June 1, 1950 and replaced previous legislation.

The largest areas under federal jurisdiction are in the Northwest Territories and Yukon Territory where only 89 sq. miles of a total area of 1,511,979 sq. miles are privately owned. This part of the national domain, with the exception of the islands in Hudson Bay and James Bay, is all north of the 60th parallel of latitude and occupies about 40 p.c. of the surface of Canada. It is under the administration of the Department of Indian Affairs and Northern Development.

Provincial Public Lands.—Public lands of Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia (except the Railway Belt and Peace River Block) have been administered since Confederation by the provincial governments. In 1930 the Federal Government transferred the unalienated portions of the natural resources of Manitoba, Saskatchewan and Alberta and of sections of British Columbia to the respective governments, and all unalienated lands in the Province of Newfoundland, except those admini-

stered by the Federal Government, became provincial public lands under the Terms of Union on Mar. 31, 1949. All land in the Province of Prince Edward Island has been alienated except 130 sq. miles under federal or provincial administration.

Information regarding provincial public lands may be obtained from the respective provinces. (See the Directory of Sources of Official Information, Chapter XXVII, under "Lands and Land Settlement".)

Subsection 1.—National Parks

Canada's National Parks are the result of the Federal Government's efforts to preserve natural areas of outstanding scenic and biological interest for the benefit of the public. The national park concept, which began with the establishment of Yellowstone National Park in the United States in 1872, was soon afterwards applied in Canada. In 1885, the Canadian Government reserved from private ownership the hot mineral springs of Sulphur Mountain in what is now Banff National Park. Two years later, this 10-sq. mile reserve was extended to 200 sq. miles and named Rocky Mountain Park, the first federal park in Canada. In the same year, Queen Victoria Niagara Falls Park, the first provincial park, was established by the Ontario Government to protect the public's right to view the great natural wonder of Niagara Falls. Two land reserves in southern British Columbia—Yoho and Glacier—were established by the Federal Government in 1886, a reserve in the Waterton Lakes area of southern Alberta in 1895, and an area of 4,200 sq. miles around Jasper, Alberta, in 1907. These four reserves, all in the western mountain ranges, joined Banff as the nucleus of the National Park system when the Dominion Forest Reserves and Parks Act was passed by Parliament in 1911. The Act also provided for a distinct National Parks Branch in the Federal Government to protect, administer and develop the parks.

By 1935, nine more National Parks had been established. Three of these were in Ontario and consisted of federally owned Crown land; one in Saskatchewan and one in Manitoba were former forest reserves; Wood Buffalo National Park, straddling the Alberta-Northwest Territories border and occupying an area of 17,300 sq. miles, making it the largest national park in the world, was established as a refuge for the largest surviving herd of Buffalo in North America; Elk Island National Park near Edmonton was also established as a preserve for buffalo; and Mount Revelstoke and Kootenay National Parks, scenic areas in southern British Columbia, were established by agreement between the Federal and British Columbia Governments.

The parks added to the system since 1935 were set up with the co-operation of provincial governments which made lands available for National Park purposes. All lands suitable for National Parks are now under the administration of provincial and territorial governments and a new National Park may be established by Act of Parliament only after the land for it has been acquired by the provincial government and transferred, together with all its mineral and other resource rights, to the administration of the Federal Government.

National Parks are now under the jurisdiction of the Minister of Indian Affairs and Northern Development and the National and Historic Parks Branch and are administered under the National Parks Act enacted in 1930 (RSC 1952, c. 189) and various park regulations. The purpose of the parks and the objectives of their management are set out in that Act, which dedicates the parks to the people of Canada for their "benefit, education and enjoyment" and instructs that they are to be maintained and used so as to leave them unimpaired for the enjoyment of future generations.

An important step in the evolution of National Park administration was taken when all policies regarding the parks were reviewed and consolidated in a statement that was

approved by the Government and announced in the House of Commons on Sept. 18, 1964. The main points of this policy statement, which will guide administration and provide objectives for planning and development, are:—

- (1) National Parks are established to preserve for all time the most outstanding and unique natural features of Canada for the benefit, education and enjoyment of Canadians as part of their natural heritage. They are dedicated forever to one use—to serve as sanctuaries of nature for rest, relaxation and enjoyment. No exploitation of resources for any other purpose is permitted. All development must contribute to public enjoyment and conservation of the parks in a natural condition.
- (2) Zoning will be used to guide development and to preserve park values. Visitor services will be grouped generally to visitor service centres, a definition that applies to existing townsites.
- (3) National Parks cannot meet every recreational need; the most appropriate uses are those involving enjoyment of nature and activities and experiences related to the natural scene.
- (4) The Federal Government assumes the cost of administration and protection in the parks and provides basic facilities for public use, such as roads, trails, campgrounds, picnic areas, nature interpretation and utilities. Other facilities beyond basic requirements, such as hotels, motels, restaurants, gas stations, stores and other special services, are provided by private enterprise.
- (5) Park residents and businesses should be in the same economic position as those operating outside the National Parks and this principle governs the approach to charges, rentals and fees. The users of special services such as swimming pools, marinas, golf courses and fully serviced campgrounds should pay the operation and maintenance costs of these publicly operated facilities. In general, permanent and seasonal residents should be limited to persons providing basic services to park visitors and to the park community.
- (6) All decisions affecting public development and the activities of private enterprise must be governed by the national interest as expressed by the National Parks Act.

In addition to the National Parks, which preserve natural features, National Historic Parks and Sites preserve and identify the places important in the history of Canada. The National Historic Parks are military or fur-trading forts that have been preserved, or historic buildings or reconstructions of historic buildings and most of them have museums associated with them. Hundreds of monuments or plaques commemorating personages or events have been erected across the country. A site is declared of national historical significance on the recommendation of the Historic Sites and Monuments Board of Canada, an advisory board of historians representing all provinces.

The National Parks and National Historic Parks and Sites are administered by a director and three regional directors who are responsible for operations in the Western Region, the Central Region (Ontario and Quebec) and the Atlantic Region. Each director is advised by representatives of the four staff divisions of the Branch—Financial and Management, National Parks Service, Canadian Historic Sites, and Engineering and Architectural. A resident superintendent manages each park and directs a staff of park wardens who protect the park and its natural features and enforce park regulations, park naturalists who explain the park to visitors and offer various educational services, and other administrative, maintenance and visitor service personnel.

Each park is being developed to yield the recreational potential for which it is suited and sightseeing, camping, fishing, photography, hiking and nature study are the most popular recreations common to the 18 parks that are accessible to the public. There are campgrounds in each park; daily charges are \$1, \$1.50 or \$2 a day, depending on the services provided. A vehicle admission fee, varying from 25 cents for a single entry to \$2 for an annual licence good for all parks, is payable on entering all parks in Western Canada and Point Pelee National Park in Ontario; there is no charge for motor vehicles entering parks in the Atlantic Provinces.

2.—Location, Year Established, Area and Characteristics of National Parks and of National Historic Parks and Sites

Park	Location	Year Estab- lished	Area	Characteristics
			sq. miles	
National Parks				
Terra Nova.....	On Bonavista Bay, Newfoundland, 205 miles north of St. John's.	1957	153.0	Rocky headlands, wooded interior areas, off-shore and freshwater fishing. Serviced campground and cabin accommodation.
Prince Edward Island.	North shore of Prince Edward Island.	1937	7.0	Strip 25 miles long on shores of the Gulf of St. Lawrence. Fine bathing beaches. Hotel and cabin accommodation. Serviced campgrounds.
Cape Breton Highlands	Northern part of Cape Breton Island, N.S.	1936	367.0	Rugged Atlantic coastline with mountainous background. Fine seascapes. Hotel and cabin accommodation. Serviced campgrounds.
Kejimikujik.....	Interior of southwestern Nova Scotia near Maitland Bridge.	¹	150.0	Newest National Park still at early stage of development.
Fundy.....	On Bay of Fundy between Moncton and Saint John in New Brunswick.	1948	79.5	Interesting rock formations on coast and rolling hills inland. Motel and cabin accommodation and campgrounds.
Georgian Bay Islands..	In Georgian Bay, 3 miles by water from Honey Harbour, Ont.	1929	5.4	Camping, canoeing, hiking, swimming, fishing and boating opportunities. Unusual geological formations on Flowerpot Island, off Tobermory on Midland Peninsula. Accessible by boat only.
Point Pelee.....	On Lake Erie near Leamington, in southwestern Ontario.	1918	6.0	Most southerly part of Canadian mainland. Fine bathing beaches. Unusual flora. Resting place for migrating birds. Campground.
St. Lawrence Islands...	In St. Lawrence River between Brockville and Kingston, Ont.	1914	260.0 (acres)	Mainland area and 14 islands with docks, campgrounds and picnic areas. Representative selection of the Thousand Islands. Islands accessible by boat only.
Riding Mountain.....	Southwestern Manitoba, west of Lake Winnipeg.	1929	1,148.0	Woodland escarpment with fine lakes. Fishing, swimming, trail-riding, hiking and golfing. Visitor services in Wasagaming townsite. Campgrounds.
Prince Albert.....	Central Saskatchewan, north of Prince Albert.	1927	1,496.0	Forested region dotted with lakes and interlaced with streams. Fishing, swimming, boating and golfing. Marina. Visitor services at Waskesiu townsite.
Banff.....	Western Alberta, on east slope of Rockies, 65 miles from Calgary.	1885	2,564.0	Best known and most popular of the National Parks. Magnificent scenery. Mineral hot springs. Resort facilities at Banff and Lake Louise. Skiing developments at Mount Norquay, Mount Whitehorn, Sunshine, Skoki and Temple. On Trans-Canada Highway.
Elk Island.....	Central Alberta, near Edmonton.	1913	75.0	Fenced preserve containing large herd of buffalo; also deer, elk and moose. Popular picnic and day-use area. Cabin accommodation and serviced campground.
Jasper.....	Western Alberta, on east slope of Rockies, 235 miles from Edmonton.	1907	4,200.0	Mountainous area and noted wildlife sanctuary. Majestic peaks, icefields, beautiful lakes and famous resort, Jasper. Mineral hot springs. Connected with Banff by scenic Banff-Jasper Highway. Accessible also by rail. Hotel and cabin accommodation and campgrounds.

¹ Not yet formally established.

2.—Location, Year Established, Area and Characteristics of National Parks and of National Historic Parks and Sites—continued

Park	Location	Year Estab- lished	Area	Characteristics
			sq. miles	
National Parks—concluded				
Waterton Lakes.....	Southern Alberta, adjoining Glacier Park in Montana, U.S.A.	1895	203.0	Canadian section, Waterton-Glacier International Peace Park. Mountainous area with spectacular parks and beautiful lakes. Hotel, motel and cabin accommodation. Serviced and unserviced campgrounds.
Glacier.....	Southeastern British Columbia, on summit of the Selkirk Range.	1886	521.0	Superb alpine region, towering peaks, glaciers and forests. Climbing, hiking and camping. On Trans-Canada Highway. Visitor services at Rogers Pass.
Kootenay.....	Southeastern British Columbia, on west slope of Rockies.	1920	543.0	Includes Vermilion-Sinclair section of Banff-Windermere Highway. Broad valleys, deep canyons, mineral hot springs. Hotel and cabin accommodation. Serviced and unserviced campgrounds.
Mount Revelstoke....	Southeastern British Columbia, on west slope of Selkirks.	1914	100.0	Mountain-top plateau with rolling alpine meadow and picturesque tarns.
Yoho.....	Eastern British Columbia, on west slope of Rockies.	1886	507.0	Lofty peaks, magnificent waterfalls, colourful lakes. Yoho and Kicking Horse Valleys. Hotel and cabin accommodation. Serviced and unserviced campgrounds.
Wood Buffalo.....	Partly in Alberta, and partly in Northwest Territories, between Athabasca and Slave Rivers.	1922	17,300.0	Largest National Park in world. Home of largest remaining herds of plains and wood bison and nesting ground of whooping crane. Accommodation at and access by boat and aircraft from Fort Smith, N.W.T.
National Historic Parks				
			acres	
Signal Hill.....	St. John's, Nfld.....	1958	243.4	Site of 1762 battle between French and British and of many fortifications. Marconi made first transatlantic wireless transmission here in 1901.
Fort Amherst.....	Prince Edward Island, near Rocky Point.	¹	222.0	Remaining earthworks of British fort built after 1758.
Fort Anne.....	Annapolis Royal, N.S.....	1917	31.0	Site of French fort first built about 1635, finally captured and occupied by British in 1710. Museum and well-preserved earthworks.
Fortress of Louisbourg.	Cape Breton Island, N.S., 25 miles from Sydney.	1940	13,000.0	Walled town built by French 1713-58 and demolished by British 1759. Being partially reconstructed. Archaeological investigations in progress.
Halifax Citadel.....	Halifax, N.S.....	1951	20.0	Fortress constructed in 1820s and in 1850s. Museum.
Port Royal.....	Port Royal, N.S., 8 miles from Annapolis Royal.	1940	20.5	Reconstruction of "Habitation"—first fort built in 1605 by Champlain and DeMonts.
Alexander Graham Bell	Baddeck, N.S.....	¹	21.0	Museum containing mechanical and documentary records of research by the inventor.
Grand Pré.....	Grand Pré, N.S.....	1957	20.0	Commemorates the story of the Acadians and the New England Planters. Museum.
Fort Beauséjour.....	New Brunswick, near Sackville.	1926	93.0	Site of French fort erected in mid-1700s. Museum.
Fort Chambly.....	Chambly, Que.....	1940	2.5	Fort built by English in 1709-11. Museum.

¹ Not yet formally established.

2.—Location, Year Established, Area and Characteristics of National Parks and of National Historic Parks and Sites—concluded

Park	Location	Year Estab- lished	Area	Characteristics
			acres	
National Historic Parks—concluded				
Fort Lennox.....	Île aux Noix, Que., near St. Paul.	1940	210.0	Fort built by English in 1820s.
Fort Malden.....	Amherstburg, Ont.....	1940	10.0	Site of defence post built in 1797-99. Museums.
Fort Wellington.....	Prescott, Ont.....	1940	12.0	Military garrison 1812-66.
Woodside.....	Kitchener, Ont.....	1954	12.0	Boyhood home of the Rt. Hon. William Lyon Mackenzie King, former Prime Minister of Canada.
Fort Prince of Wales...	Northern Manitoba, near Churchill.	1940	50.0	Ruins of fort built 1733-71 to secure control of Hudson Bay for England.
Lower Fort Garry.....	Manitoba, 20 miles north of Winnipeg.	1951	13.0	Stone-walled fort built by the Hudson's Bay Company between 1831 and 1839.
Fort Battleford.....	Saskatchewan, 4 miles south of North Battleford.	1951	36.7	North West Mounted Police post built in 1876. Museum.
Fort Langley.....	Fort Langley, B.C.....	¹	11.0	Partially restored trading post founded 1827. Colony of British Columbia proclaimed here 1858.
Fort Rodd Hill.....	Esquimalt, B.C.....	1962	44.4	Extensive 19th century stone and concrete coastal fortifications.
Major National Historic Sites				
George Island.....	Halifax, N.S.....	¹	12.5	Preserved harbour fortifications built in 1870s.
York Redoubt.....	Halifax, N.S.....	¹	187.5	Perimeter harbour defence installations in use from 1778 to 1945.
Fort Gaspereau.....	Near Port Elgin, N.B.....	¹	2.0	Site of 1751 French fort.
St. Andrews Blockhouse	St. Andrews, N.B.....	1938	2.5	Built during War of 1812.
Martello Tower.....	Lancaster, N.B.....	1924	0.8	Harbour defence built during War of 1812.
Sir Wilfrid Laurier's Birthplace.....	St. Lin, Que.....	1941	0.5	Period restoration relating to early life of a famous Prime Minister.
Cartier-Brébeuf Park..	Quebec, Que.....	¹	5.0	Park, possible wintering site of Jacques Cartier, 1535-36.
Old walls around City of Quebec.....	Quebec, Que.....	..	...	Former Quebec City fortifications.
Fort Coteau.....	Coteau du Lac, Que.....	¹	9.5	Site of fort built in 1779.
Bellevue.....	Kingston, Ont.....	1964	1.2	House lived in by Sir John A. Macdonald about 1848.
Fort St. Joseph.....	St. Joseph's Island near Sault Ste. Marie, Ont.	¹	47.0	Most westerly British fort, built in 1796.
Batoche Rectory.....	Near Duck Lake, Sask...	1954	7.0	On field of final battle of Northwest Rebellion, 1885. Only surviving building of that date.
Fish Creek Memorial Park.....	Near Rosthern, Sask.....	..	39.0	Commemorates Northwest Rebellion battle of 1885.
Palace Grand Theatre	Dawson, Y.T.....	1959	--	Reconstruction of theatre of Gold Rush days.
S.S. Keno.....	Dawson, Y.T.....	1959	--	Preserved Yukon river-boat.
Yukon Sternwheeler...	Whitehorse, Y.T.....	1959	--	Yukon river-boat of 1930 period.

¹ Not yet formally established.

Evidence of the increasing attraction of Canada's National Parks and National Historic Parks and Sites is the growing numbers of visitors as shown in Table 3.

3.—Visitors to National Parks and National Historic Parks and Sites, Years Ended Mar. 31, 1964-67

Park	1964	1965	1966	1967
	No.	No.	No.	No.
National Parks				
Terra Nova.....	55,926	66,180	108,738	179,647
Prince Edward Island.....	1,019,104	1,112,536	967,372	1,130,773
Cape Breton Highlands.....	615,133	624,942	729,443	851,653
Fundy.....	494,157	566,443	679,406	753,310
Georgian Bay Islands.....	18,052	8,371	8,361	10,438
Point Pelee.....	780,795	661,166	697,328	726,035
St. Lawrence Islands.....	77,368	67,109	60,330	122,304
Riding Mountain.....	693,316	681,313	687,959	738,724
Prince Albert.....	137,494	140,521	152,256	146,624
Banff.....	1,650,257	1,605,784	1,803,490	2,044,537
Elk Island.....	207,914	175,105	197,728	204,286
Jasper.....	468,579	480,102	522,658	595,164
Waterton Lakes.....	441,803	371,258	393,426	487,589
Glacier.....	752,512	705,150	767,206	917,264
Kootenay.....	567,291	548,515	638,812	722,743
Mount Revelstoke.....	768,417	706,015	741,457	872,367
Yoho.....	678,739	658,518	689,313	864,454
Wood Buffalo.....	..	..	..	..
Totals, National Parks.....	9,426,857	9,179,028	9,845,283	11,367,912
National Historic Parks and Sites¹				
Signal Hill.....	195,208	241,242	275,209	396,762
Fort Amherst.....	3,851	9,513	22,576	26,076
Fort Anne.....	77,201	64,551	66,534	74,428
Fortress of Louisbourg.....	40,153	113,148	148,072	193,127
Halifax Citadel.....	192,286	213,212	213,878	328,386
Port Royal Habitation.....	35,947	39,265	42,699	46,458
Alexander Graham Bell.....	91,392	106,228	110,158	121,804
Grand Pré.....	63,395	64,194	62,848	73,192
Fort Beauséjour.....	43,346	49,427	49,087	53,299
Martello Tower.....	..	38,893	40,993	43,984
Fort Chambly.....	85,569	91,493	101,286	132,700
Fort Lennox.....	27,943	20,423	26,191	29,995
Sir Wilfrid Laurier's Birthplace.....	7,592	7,190	7,562	7,872
Fort Malden.....	41,023	38,916	52,670	64,025
Fort Wellington.....	51,530	52,167	40,917	60,495
Woodside.....	12,564	11,699	13,554	14,309
Fort Prince of Wales.....	256	424	311	526
Lower Fort Garry.....	85,391	86,620	92,208	107,303
Fort Battleford.....	34,807	38,825	42,878	43,111
Batoche Rectory.....	7,069	7,855	8,869	9,580
Fort Langley.....	105,139	116,723	111,941	133,237
Fort Rodd Hill.....	39,759	32,922	36,614	58,810
Palace Grand Theatre.....	..	..	5,525	9,599
S.S. Keno.....	..	..	6,857	3,250
Totals, National Historic Parks and Sites.....	1,241,421	1,444,930	1,579,437	2,032,328
Grand Totals.....	10,668,278	10,623,958	11,424,720	13,400,240

¹ Sites for which visitor data are available.

Subsection 2.—Provincial Parks

Most of the provincial governments of Canada have established parks within their boundaries. Some of these, particularly in Quebec and Ontario, are wilderness areas set aside in order that some portions of the country might be retained in their natural state without change brought about by the hand of man. Most of them, however, are smaller areas of exceptional scenic or other interest which are easily accessible and are equipped

or slated for future development as recreational parks with camping and picnic facilities. The more important parks in each province are mentioned briefly in the following paragraphs.

Newfoundland.—There are 78.5 sq. miles of provincial parkland reservations in Newfoundland. Of the total area, 26 sq. miles are at present utilized for public recreation and the remaining 52.5 sq. miles are as yet undeveloped. The active parkland consists of three regional parks, each having an area of about 8 sq. miles, and 18 roadside parks with camp and picnic facilities, each having an area of about 100 acres.

In early 1966 arrangements were made under the federal Agricultural and Rural Development Act (ARDA) program to establish 12 more provincial parks in Newfoundland within the next two years. The parks will be located in various sections of the province and each will contain 25 camping areas, 25 picnic areas and swimming facilities, with associated roads, trails, clearings and bridges.

Prince Edward Island.—Twenty areas totalling 900 acres have been developed as provincial parks including Strathgarny Park, a 40-acre tract of land on the Trans-Canada Highway between Charlottetown and Borden, which is an excellent picnic site and campground with its hardwood groves, fresh spring water and beautiful view over the West River and the surrounding country; Lord Selkirk Park, an area of 30 acres at Eldon, is of historic significance as the place where Jacques Cartier first landed on Prince Edward Island; Brudenell River Park, comprising 80 acres at Roseneath, has a considerable area of woodland and runs to the shore of the Brudenell River; Jacques Cartier Park, an area of 13 acres at Kildare Beach four miles from Alberton, is of historic significance as the place where Jacques Cartier first landed on Prince Edward Island; Green Park, 27 acres on the Trout River, is an attractive combination of land, trees and water and is also of interest as a historic shipbuilding centre; and Cabot Park at Malpeque, named in honour of the famous explorer, John Cabot, is a 16-acre area with beautiful sandy beaches and an interesting museum. Several small parks have been developed or are under development. The parks are maintained by the Department of Tourist Development. A fee of \$1.50 is charged for serviced tent and trailer sites and of \$1 for unserviced sites.

Nova Scotia.—Steady progress is being made in establishing a provincial park system in Nova Scotia, having the ultimate goal of providing facilities at 20 to 25 camping-picnic parks and some 60 picnic parks. During 1967 there were in operation 12 camping parks, 39 picnic parks and 10 roadside picnic sites. Ten additional camping parks are planned for development in 1967-68, as well as additional picnic parks. Under a land acquisition program, the province has acquired over 9,000 acres for park purposes and it is intended that recreational holdings will continue to increase over the next few years. A beach acquisition program is also in progress. Progress is being made on the recreation section of the Canada Land Inventory program; it is anticipated that the whole program will be completed by March 1968.

New Brunswick.—The Department of Natural Resources is responsible for the development of the provincial park system, which includes 15 regional parks ranging in size from 25 to 200 acres, 19 picnic campgrounds and 30 roadside picnic grounds. All picnic and camping grounds contain tables, some form of toilet facility and a potable water supply but more elaborate facilities are available in the larger parks. Most parks are adjacent to or easily accessible from main trunk roads. No entrance fee is charged at any of the sites, but a daily camping fee of \$1 to \$1.50 is in effect at 20 of the larger parks and campgrounds.

The total number of visitors to provincial parks in 1966 exceeded 1,300,000, campers numbering 113,110; 74 p.c. of the campers using park sites come from outside the province and about 40 p.c. of the day-use visitors are non-residents. Most of the park sites are located in rural areas, fairly evenly distributed throughout the province. A five-year

ARDA program of expansion and improvement of park and campground facilities is being undertaken, which will include the development of approximately 1,000 tent and trailer sites, accommodation for day-use of beaches, forest and wildlife recreation areas, scenic lookouts, etc., land purchase and provision of special facilities where warranted by intensity of use, such as boats, ramps, docks, canteens and playgrounds.

The Department maintains a Game Farm at Magnetic Hill near Moncton where various species of wildlife to be found in the province are displayed.

Quebec.—The Province of Quebec has seven provincial parks and 12 fish and game reserves. Four of the park areas are quite extensive. La Vérendrye Park, 140 miles northwest of Montreal, has an area of 4,953 sq. miles; Laurentide Park, 30 miles north of Quebec City, has 3,613 sq. miles; Mont Tremblant Park, 80 miles north of Montreal, 920 sq. miles; and Gaspésian Park, in the Gaspé Peninsula, 514 sq. miles. Mont Orford Park, situated 15 miles west of Sherbrooke, has an area of 16 sq. miles and Oka Park, near Oka, 1.5 sq. miles. Newest addition to the provincial parks is the St. Maurice Park, a 131-sq. mile area north of Shawinigan in Champlain County.

Fish and Game Reserves together occupy over 43,000 sq. miles. The Chibougamau Reserve, the Mistassini Reserve and the Assinica Reserve, all northwest of Lake St. John, have areas of 3,400, 5,200 and 3,850 sq. miles, respectively, and farther north is the James Bay Reserve with an area of 25,000 sq. miles. The Aiguebelle Reserve in Abitibi County has an area of 100 sq. miles, the Baie Comeau and Chicoutimi Reserves in the Lake St. John area, 480 and 678 sq. miles, respectively, and the Kipawa Reserve in Témiscamingue County, 3,090 sq. miles. Adjoining Gaspésian Park are the Chic-Chocs and Matane Reserves with areas of 325 sq. miles and 500 sq. miles, and in Rimouski County is the Horton Reserve with an area of 310 sq. miles; this is the only reserve operated for hunting as well as for fishing.

These parks and reserves are wilderness areas of great scenic interest and are for the most part mountainous country threaded with many rivers, lakes and streams and abounding in wildlife. In all of them, except Mont Orford Park and Oka Park, excellent fishing may be found and most of them have been organized to accommodate sportsmen and tourists in camps, cottages and lodges. Mont Tremblant Park, located close to a famous year-round recreational area, is easily reached in summer by highway from Montreal and is very popular for tent or trailer camping and for swimming and picnicking. Mont Orford has an 18-hole golf course and, in winter, is the rendezvous of Canadian and United States skiers and the site of the Canadian Alpine downhill and slalom championship competitions. Hunting is forbidden in all parks and reserves except Horton, Kipawa and James Bay. In recent years, controlled moose hunting in Laurentide, La Vérendrye and Matane Parks has been allowed to remove the surplus population.

Salmon fishing is available in the Gaspé area where the government maintains facilities for anglers along the Port Daniel, St. Jean, Cap-Chat, Matane, Matapédia and Petite Cascapédia Rivers. Facilities are also provided along the estuary of the Moisie River on the north shore of the St. Lawrence River about 15 miles east of Sept Îles, as well as at Petit Saguenay and Laval.

The ever-increasing popularity of camping in Quebec has prompted the Department's Park Service to establish camping facilities. Twenty areas are now well organized for this purpose—Val Jalbert, one mile east of Roberval in Lake St. John County; Grand Métis, six miles from Mont Joli, and Cap Bon Ami, both in the Gaspé Peninsula; Batiscan, on Highway 2, 25 miles east of Trois-Rivières; St. Jean, Île d'Orléans, Stoneham, Ville-neuve and Beaumont in the vicinity of Quebec City; des Voltigeurs, Waterloo and Mont Orford in the Eastern Townships; Brossard, Laprairie, Côte Ste. Catherine, Pointe-aux-Cascades and Oka close to Montreal; and Soulanges, St. Zotique and Rivière-Beaudette near Valleyfield.

Ontario.—The development of provincial parklands in Ontario continues at a rapid rate. In 1954 there were only eight provincial parks in the province while today there are 96 such parks available for public use. In addition, several new parks are in process of development and 56 other areas encompassing almost 748 sq. miles are reserved for future development. The total area in the Ontario Provincial Park system is about 5,909 sq. miles.

The four largest provincial parks—Algonquin, Quetico, Lake Superior and Sibley—together have an area of about 5,200 sq. miles. Algonquin Park, the largest in the system, is a beautiful area 2,910 sq. miles in extent, 180 miles north of Toronto and 105 miles west of Ottawa; it has 14 picnic and camp grounds which are accessible by car from Highway 60 and offers particularly fine canoeing opportunities within its interior. Quetico Park, covering 1,750 sq. miles, is accessible by Highway 11 at the Dawson Trail Campground on French Lake and also by water via Basswood Lake in the south. Highway 17 north from Sault Ste. Marie provides access to Lake Superior Park, and Sibley Park may be reached by road from Highway 17 east from Port Arthur.

In 1966 a new policy of park classification and park land zoning was announced to achieve a balanced park system and to establish a policy framework for positive and effective development and management. Five park classes were established—primitive, natural environment or heritage, wild river, nature reserve, and recreation. Comparable zones within parks were also established—primitive, natural, historic, multiple use, and recreation.

Under the Wilderness Areas Act, which came into effect in 1959, 42 areas have been established. These areas, widely distributed across the province, vary in size, character and significance but all are regarded as important for their historic, scientific, aesthetic or cultural values. The largest is a 938-sq. mile block covering the Pukaskwa area on the north shore of Lake Superior and the second largest is a 225-sq. mile area of treeless tundra in the northeastern tip of the province at the point where Cape Henrietta-Maria juts out into Hudson Bay; this area is the most southern arctic tundra in the world and its primitive unspoiled landscapes and characteristically arctic wildlife are being preserved for scientific study and as unique features of the province. All other wilderness areas are one square mile or less in size.

Ontario has made another advance in meeting the rising pressures for recreational space by applying the concept of the recreational reserve. The recently created North Georgian Bay Recreational Reserve covers 4,500 sq. miles of interesting country lying generally between Algoma and Parry Sound on the north shore of Georgian Bay and including the channel between Manitoulin Island and the mainland, the 30,000 Islands, the famous route of the voyageurs via the French River, the remaining shoreline of Lake Nipissing and the LaCloche Mountains. The Reserve is not a National Park nor is it a Wilderness Area but an area following a normal course of development which is already used extensively for recreation. The plan is, by guiding the evolution of the area, to realize its full potential as a recreational paradise serving all types of needs and co-existing with a landscape of normal activity.

Ontario's vast lakeland areas make this province a vacation paradise and the number of park visitors increases year by year. Attendance in 1966 was 9,791,671 persons and campers numbered 994,787. Charges for vehicle entry are \$1 a day or \$5 a year and camping charges are \$1.50 a night or \$9 a week. At supervised tent and trailer campsites, picnic tables, fireplaces, tested drinking water and washrooms are provided. New campsites are being added at the rate of 500 to 1,000 a year and in 1966 numbered approximately 17,000.

Interpretative and naturalist programs are being continually expanded and such services as museums, outdoor exhibits, conducted trips, illustrated talks and labelled nature trails were available in 25 parks in 1966.

The parklands of Ontario are administered by the Parks Branch of the Department of Lands and Forests. Detailed information is contained in various booklets and maps available on request from the Department of Lands and Forests, Parliament Buildings, Toronto.

Manitoba.—The provincial park system of Manitoba, administered by the Parks Branch of the Department of Mines and Natural Resources, consists of four major classifications of outdoor recreational development: *provincial parks*, which are large-area parks with a variety of natural attractions suited to many outdoor activities; *recreational areas*, the natural attractions of which are modified to accommodate recreational activities of an intensive nature; *waysides*, or highway parks which enhance travel routes and provide attractive rest stops; and *heritage areas*, which are areas of outstanding scenic beauty or have natural and physical features of special provincial interest.

Manitoba's Centennial \$5,000,000 parks program includes the development of three new provincial parks, the rehabilitation and expansion of existing recreational areas with a view to providing new camping and improved day-use facilities, and the development of the heritage area program to preserve and interpret sites, large and small, illustrating the natural and human history of the province; Bird's Hill Provincial Park, 14 miles east of Winnipeg, was officially opened July 15, 1967. A survey has been conducted to establish a development policy for waysides and a study of the shoreline potentials along Lake Winnipeg and Lake Manitoba will provide guidance for the future development of the interlake area.

At present Manitoba has nine provincial parks with a total area of 2,854 sq. miles, of which area 1,945 sq. miles are within provincial forests. In addition, there are 40 recreational areas ranging in size from 2.5 acres to 2,000 acres, and many picnic sites, campgrounds and trailer parks. Hunting and fishing lodges are common and accommodation in some of the parks runs the gamut of modern resorts and motels, hotels and cabins. Golf, tennis, swimming and boating facilities are available, as well as children's playgrounds. About 115 commercial concessions operate within the park system giving a variety of services ranging from restaurants to riding stables and boat marinas. The number of park visitors continues to increase impressively each year. In the year ended Mar. 31, 1966 they totalled an estimated 1,570,000 and camping groups accommodated in tents, trailers or truck campers numbered about 36,000. Admission fees to provincial parks are 50 cents per car per day or \$3 per season.

Saskatchewan.—Saskatchewan has 14 provincial parks with a total area of 1,803 sq. miles. Cypress Hills, Duck Mountain, Greenwater Lake and Moose Mountain are operated as summer resorts with chalet, lodge, cabin and trailer accommodation as well as camp and picnic facilities. The other parks have trailer sites and camping, picnicking, boating and swimming facilities. Recreational activities include fishing, boating, swimming, golf, tennis, dancing, baseball, hiking, nature study, horseback riding, etc., and the parks are all well fitted with playground and beach equipment for children. In Cypress Hills Park, elk, antelope, deer, sharp-tailed grouse and beaver are present, and the streams have been stocked with brook and other trout. Heavy stands of tall, straight lodgepole pine and white spruce provide a unique forest cover in this area. In Duck Mountain, Moose Mountain and Greenwater Lake Parks, moose, elk and bear appear variously, and deer and beaver are common to all, as well as several varieties of grouse and many species of water and smaller land birds. Spruce, poplar and white birch provide excellent cover for wildlife. Pickerel, pike and perch are prevalent in most of the lakes. Lake trout are ardently sought by fishermen in the northern lakes. Three wilderness parks—La Ronge, Nipawin and Meadow Lake—offer wilderness-style canoe routes and 'fly-in' commercially operated fishing and hunting camps. Many roadside picnic grounds are located throughout the province and several excellent Trans-Canada Highway campsites are in use.

Sites of historic interest are marked throughout the province and include the Touchwood Hills Hudson's Bay Post, Cannington Manor Historic Park and Wood Mountain Historic Park, all of which have picnic facilities.

Alberta.—In Alberta, 47 provincial parks have been established, 44 of which, with a total area of approximately 170 sq. miles, are in use and continuing development. Cypress Hills Provincial Park with an area of 78 sq. miles is the largest and is situated in the south-east portion of the province. Other parks are: Aspen Beach, Beauvais Lake, Big Hill Springs, Big Knife, Bow Valley, Bragg Creek, Crimson Lake, Cross Lake, Dillberry Lake, Dinosaur, Entrance, Garner Lake, Gooseberry Lake, Hommy, Jarvis Bay, Kinbrook Island, Lac Cardinal, Little Bow, Little Fish Lake, Long Lake, Ma-Me-O Beach, Miquelon Lake, Moonshine Lake, O'Brien, Park Lake, Pembina River, Red Lodge, Rochon Sands, Saskatoon Island, Sir Winston Churchill, Taber, Thunder Lake, The Vermilion, Tillebrook Trans-Canada Campsite, Wabamun Lake, Williamson, Willow Creek, Winagami Lake, Woolford, Writing-on-Stone, Lesser Slave Lake, Moose Lake and Pigeon Lake. These parks are generally provided with picnic, camping and playground facilities and are maintained by the Department of Lands and Forests primarily for the recreation and enjoyment of the residents of the province. There is a park within easy reach of almost every town. The most northerly park is Lac Cardinal, about 28 miles southwest of Peace River, and the southernmost park is Writing-on-Stone which adjoins the Alberta-Montana border. Alberta's provincial parks were visited by 3,575,139 tourists and vacationists in 1966.

In addition to the recreational parks, 24 sites have been established to mark and preserve locations of historic interest. They include: Athabasca Landing, Buckingham House, Bugnet Plantation, Coronation Boundary Marker, Early Man Site, Fort DeL'Isle, Fort George, Fort Vermilion, Fort Victoria, Fort White Earth, Frog Lake Massacre, Hay Lakes Telegraph Station, Massacre Butte, Ribstones, Rocky Mountain House Fort, Standoff, Stephansson, Twelve Foot Davis, Shaw Woolen Mill, Rev. George McDougall's Death Site, Fort McLeod, Indian Stone Pile, St. Joseph Industrial School and Old Women's Buffalo Jump.

Provided also for Albertans are the Wilderness Provincial Park, which adjoins Jasper National Park in the north and extends along the British Columbia border, and three wilderness areas established under the Forest Reserves Act in 1961. Willmore Wilderness Provincial Park has an area of 2,149 sq. miles, Siffleur Wilderness 159 sq. miles, White Goat Wilderness 489 sq. miles and Ghost River Wilderness 59 sq. miles. The wilderness areas have been set aside to preserve as far as possible the natural scene and are not subject to any development or provided with roads.

British Columbia.—There are 250 (170 developed) provincial parks in British Columbia, having a total area of about 10,018 sq. miles. These parks are classified as A, B and C. Class A parks are intended to preserve outstanding natural, scenic and historic features of the province for public recreation; they have a high degree of legislative protection against exploitation and alienation. Class B parks are also primarily for the protection of natural attractions but other resource use may be permitted if it does not unduly impair recreational values. Class C parks are intended primarily for the use of local residents and are generally managed by local park boards. Nature Conservancy Areas in any park are fully protected from resource development and are dedicated to a variety of recreational uses. There are immense wilderness areas such as Tweedsmuir Park and Wells Gray Park and outstanding scenic and mountain reserves such as Garibaldi, Mount Robson, Manning and Bowron Lakes Parks. The formal gardens of Peace Arch Park are a monument to the goodwill between Canada and the United States. Vancouver Island has a chain of small forested parks that have achieved tremendous popularity with tourists; the best known are Little Qualicum Falls, Miracle Beach and Goldstream. The famous gold town of Barkerville has been restored and became the first Provincial Historic Park; Fort Steele in the East Kootenay area is also being restored to preserve another of

British Columbia's pioneer settlements. Ten marine parks with mooring facilities and campsites have been developed on the islands of the Strait of Georgia for the benefit of water-borne vacationers.

The popularity of British Columbia's parks, with their integrated campsites and picnic areas, is attested by the fact that about 5,150,000 park visits were recorded during 1966; about 25 p.c. of the visitors were campers and the remainder day visitors. Records show that Mount Seymour, Cultus Lake and Garibaldi Parks were the most heavily used.

Subsection 3.—Ottawa, Canada's National Capital*

Canada's capital city lies in a magnificent natural setting, its hub high on the limestone bluffs bordering the Ottawa River where it tumbles over the Chaudière Falls and where, a short distance downstream, the lazy Rideau River falls in twin curtains over the cliffs from the south and the once-turbulent Gatineau River flows in from the north. Here Champlain paused and portaged on his way westward in 1613. The priests, soldiers and traders who followed him travelled past these cliffs and around the rapids. By this place passed most of the great overland explorers. Champlain called the river "*la grande rivière des Algommequins*" and early English traders called it the Grand River. "Ottawa" is the anglicized form of Outaouac or Outaouais, the name of a tribe of Indians from Lake Huron who traded with the French in the seventeenth century. They carried their furs by the river that now bears their name. The first settlement in this region is associated with an American from Massachusetts, Philemon Wright, who, in 1800, located on the north shore of the river where Hull stands today, bringing with him families and tradesmen and forming the nucleus of a busy community. Taking advantage of Britain's needs for squared timber, Philemon Wright ran the first raft of white pine to Quebec in 1806, and started the Ottawa River squared timber trade that soon came to be fostered by British tariff concessions. This was the beginning of a great industry that remained the life blood of the community for half a century.

Settlement on the south side of the river did not begin in earnest until a generation later. During the War of 1812 communications by the St. Lawrence River, the main route to the settled area in Upper Canada, had been under American attack and a safer water route between Montreal and the Great Lakes was considered an urgent need for the future. Ten years were spent in sporadic investigation and consideration of a route by the Rideau and Cataragui River systems and finally, in 1826, Lieutenant-Colonel John By of the Royal Engineers was sent to the Chaudière to build a canal from that point to Kingston. The next year two companies of Royal Sappers and Miners, numbering 162 men, began the construction. To Colonel By also goes the credit of planning the original townsite which was, in 1827, named Bytown in his honour. Where Ottawa's central area is today, the Earl of Dalhousie, the then Governor-in-Chief, had wisely secured commanding ground for the Crown in 1823 and, adjacent to this, Colonel By laid out two settlements called Upper Town and Lower Town, separated by part of the Government lands called Barrack Hill. The canal was finished in 1832 and the town that sprouted around Colonel By's military camp began to grow and prosper. Stores and banks were set up, churches and schools were built and a little manufacturing community was started in New Edinburgh near Rideau Falls.

Bytown was now the inland centre of the squared timber trade and by 1850 could boast of some fine stone buildings, among them the home of Thomas MacKay which today forms the central part of the residence of the Governor General of Canada. A change then occurred in the timber industry, the British system of preferential import duties on squared white and red pine logs was abandoned and trade began to decline. However, by this time the accessible forest stands of the eastern United States were depleted and sawn lumber was needed to house a growing population. Also, the American railway and canal network had extended to the Canadian border, making transportation easy. Encouraged

* Revised by the Information and Historical Division, National Capital Commission, Ottawa.

by these favourable conditions and the newly recognized availability of hydro-electric power, a group of American and other lumbermen came to Bytown, beginning in 1853, and established sawmills by the Chaudière Falls. Soon the islands about the falls and the flats on both shores were covered with lumber piles and loaded barges were on their way to the American market. The sawmill industry began its rise to dominating importance.

At the beginning of 1855, Bytown became a city and took the name Ottawa, just in time to receive a great honour and to assume a great responsibility. The United Province of Canada, since its formation in 1841, had shuttled its capital between Kingston, Toronto, Montreal and Quebec and was now trying to agree on a permanent site. At the end of 1857 Queen Victoria settled the dispute by choosing Ottawa. Government buildings for the new capital were designed and contracts were let in 1859 for their construction. However, the task was hard and the cost much greater than expected and it was not until 1866 that the government of the Province of Canada actually moved to Ottawa. The next year the first Parliament of the new Dominion of Canada met in an incomplete Parliament Building, situated on the former Barrack Hill.

The nation enjoyed a brief prosperity during most of the next decade. Ottawa grew and the government expanded as the Dominion extended its authority over more and more of British North America. In 1871, shortly after Confederation, the city had a population of about 22,000. Many fine homes and stores in stone and brick were built. The Departmental Buildings, flanking the Parliament Building on the Hill, were enlarged. An old wooden City Hall near the Canal was replaced in 1876 by a fine stone building and a large post office was erected at the city's centre. By the end of the nineteenth century, Ottawa was a flourishing industrial centre with a population of 59,000. It remained the hub of the lumbering industry of Eastern Canada, had the largest paper mills in the country and the leading match factory in the world. However, little effort had been made to preserve or enhance its natural beauty until the Ottawa Improvement Commission was set up in 1899 and the Driveway along the Rideau Canal was begun. Even so, progress was slow in this direction but in the years up to the beginning of the First World War the city centre began to take on a new face. Many new government buildings were erected—laboratories, the Dominion Observatory and the Geodetic Building at the Experimental Farm, the Archives Building, the Victoria Memorial Museum, the Royal Canadian Mint and the Connaught Building. In 1912, the Grand Trunk Railway completed construction of the Union Station and of the French renaissance-style Chateau Laurier whose turrets continue to grace the Ottawa skyline. During this period several studies were made and plans recommended for the improvement of the National Capital but these were deferred because of the War and for other reasons. Fire destroyed the Parliament Building in 1916, leaving standing only the octagonal library now forming part of the magnificent building of modern Gothic architecture which replaced it but was ten years in the building. The city beautification program was continued by the Ottawa Improvement Commission on a slightly increased budget until 1927; in that year the Commission was reconstituted as the Federal District Commission and the program then proceeded at a more accelerated rate. The second Commission was succeeded in 1959 by the National Capital Commission.

The City of Ottawa today, with its population of close to 300,000, is well on the way to becoming a national capital of enduring beauty and grace. It is a self-governing municipality, administered by an elected City Council, but there are underlying differences which set it apart from all other major Canadian centres. Historically, it has always been the meeting place for the two founding peoples. It is the national Seat of Government and throughout the years the federal authorities have recognized the need of creating in and around the National Capital an area of pride, not only for the residents of the city and its environs but for all Canadians.

Much of the work of the National Capital Commission hinges on the implementation of a long-range Master Plan, developed by the late Jacques Gréber, a famed French town-planner. The Gréber Plan tabled in the House of Commons in 1951, although not

officially recognized by the Provinces of Quebec and Ontario, is the basis of much that has been accomplished. In fact, ten years after its publication it was reported that all of its major proposals were in process of realization.

Success of the Plan, now and in the future, is dependent on co-operation between the Federal Government, the governments of the Provinces of Ontario and Quebec, the cities of Ottawa, Hull and Eastview and about sixty-five other autonomous municipalities in the National Capital Region. The Plan itself was conceived as a memorial to all Canadians who gave their lives in the defence of Canada during the Second World War and was projected over a fifty-year period. It called first for the establishment of a National Capital Region encompassing some 900 sq. miles but later, in 1959, this was doubled to 1,800 sq. miles—about half in Ontario and half in Quebec. In accordance with its proposals, large "open spaces" are being provided in the Ottawa-Hull area, part of which involves the restoration of the shores of the waterways. Major restorations have taken place at Rideau Falls opposite the Ottawa City Hall, at Jacques Cartier Park in Hull, and at Vincent Massey Park which is a 75-acre urban park in the heart of Ottawa, linked with the 50-acre Hog's Back Park surrounding the limestone chasm of Prince of Wales Falls on the Rideau River. Forty miles of riverfront land are under the control of the Commission and countless delightful areas are accessible to the public. There are some 60 miles of wide, landscaped driveways throughout Ottawa which will be extended by another 20 miles in coming years. In addition the Commission maintains seven city-owned parks in Ottawa, including Rockcliffe and Strathcona Parks. At present Ottawa has 4,000 acres of open space.

The relocation of government buildings to suitable scattered sites has been under way for several years. The first development took place at Tunney's Pasture located on the Ottawa River in the west-central area of Ottawa. The Pasture now contains 18 buildings of various sizes. Confederation Heights, in the south-central area adjoining Hog's Back Park, now contains six attractive and functional buildings that house Government Departments, and the large Government Printing Bureau was established in Hull. In all, the grounds of more than 140 government buildings are cared for by the Commission.

Two key proposals in the Master Plan with long-range effects on Ottawa's future are the creation of the Greenbelt and the removal of railway trackage from the central sections. The Greenbelt, designed to control urban sprawl and to provide sites for governmental, industrial and research development, is a unique planning measure in North America. Within its 41,500 acres the Commission encourages agriculture, reforestation and public recreation areas.

Railway relocation, possibly the most important element of the National Capital Plan, has been largely completed. It involved removal of 32 miles of track, much of it in the central sections of the city, elimination of 72 level crossings, many in high density urbanized areas, and is a prime consideration in Federal Government redevelopment of LeBreton Flats, the old Union Station sector in downtown Ottawa which has been redeveloped for the Centennial celebrations, and sections of Sussex Drive near the approaches of the new Macdonald-Cartier Bridge across the Ottawa River.

The National Capital Commission opened two beautiful new parkways in Ottawa in time for the Centennial of Confederation—Colonel By Drive, extending over 4.6 miles from Hog's Back to Rideau Street, and the Ottawa River Parkway, an eight-mile drive with sweeping curves from about Britannia to Wellington Street near the Garden of the Provinces.

North of Ottawa and Hull, in Quebec, a 68,000-acre recreation area known as Gatineau Park has been developed by the Commission, an area that will eventually be extended to 88,000 acres. It is a wilderness area, extending northward from Hull for 35 miles. With 25 miles of parkway, magnificent lookouts, lakes, fishing streams, beaches, picnic areas, camping sites and walking trails, the park is one of the finest recreation areas in Canada, enjoyed by tens of thousands of visitors yearly.

In addition to its own programs, the National Capital Commission extends planning aid and advice to municipalities in the National Capital Region but only on request; at no time does the Commission seek to impose its proposals on the autonomous governments concerned with local affairs in the region. Financial aid in the form of grants is made to municipal governments in special circumstances.

The Commission has 20 members, representing all the provinces, and employs between 600 and 800 people, depending on season, in carrying out its development and maintenance programs. It reports to Parliament through the Minister of Public Works.

Section 2.—Wildlife Resources and Conservation

Wildlife in Canada is an important renewable natural resource. In the early days wildlife was, and in remote areas still is, a form of sustenance in the hinterland, and trade in fur determined the course of exploration and settlement. During the period of the opening up of the country, a number of mammals and birds became seriously depleted or extinct. The passenger pigeon, the great auk and the Labrador duck became extinct, the buffalo vanished from the prairies, and elk, prong-horn antelope, and muskoxen were reduced to small fractions of their former numbers. Wildlife habitat has been reduced by the cutting and burning of the forests, the pollution of streams, industrial and urban development, drainage of wetlands, building of dams, and other changes in the land.

Wildlife has been changed and influenced by man to the degree that he has changed and influenced the environment for wildlife. The arctic and alpine tundra, one of Canada's major vegetational regions, has been changed hardly at all; the adjacent subarctic and subalpine non-commercial forests have been changed principally as a result of increased human travel causing more forest fires; the great forest farther south has not lost its real character through being managed for commercial use; cultivable lands, whether originally forest or grassland, have completely changed but often they and the managed forest are better for some forms of wildlife than the original wilderness. There are more moose, deer, ruffed grouse and probably more coyotes than in Indian days. Fur species, such as beaver and muskrat, are easily managed and many small mammals and birds thrive better in fields and woodlots than in the virgin forests, provided that they are not poisoned by pesticides. At the present time, the harvestable surplus of game and fur species across Canada is seldom fully utilized and it is quite clear that wildlife will remain abundant wherever there is suitable habitat and enlightened management.

Thus, Canada today is known throughout the world for the wealth and variety of its wildlife. It maintains most or all the existing stocks of woodland caribou, mountain sheep, wolves, grizzly bears and wolverines, to mention a few. And these animals exist not only because of the vastness of their habitat but also because of man's efforts to preserve them. There is evidence of concern about the preservation of wildlife by the early Canadians; there were game laws in force in the original provinces when all but a few thousand acres of land were still the patrimony of the Indians. In 1885 pioneer conservationists were instrumental in establishing Banff Park in Alberta, and in 1887 a bird sanctuary, the first on the Continent, was established at Last Mountain Lake in Saskatchewan. Concern to preserve Canada's wildlife heritage led to the complete protection of wood bison in 1893 and to the purchase and establishment of a nucleus herd of plains bison at Wainwright in Alberta in 1907. Thus was formed the basis of wildlife conservation efforts, which, for a long time, took the form of protection of certain species from destruction by man or predator. Better knowledge of nature's operations and recognition that many factors combine to cause fluctuation in wildlife numbers are now being reflected in scientifically based hunting seasons and limits. The science of animal numbers is new and sometimes runs counter to popular prejudice but it is well understood that any area will support only so many animals, and species that are highly productive must have a quick turnover. Consideration of wildlife must never be separated from consideration of its environment and

if the environment is fully stocked the annual increment need only replace the losses. All extra is surplus, only part of which is taken by predators and part, if the animal is a game species, by man.

As a natural resource, wildlife within the provinces comes under the jurisdiction of the respective provincial governments.* Wildlife on federal lands and certain problems of national or international interest with respect to research and management are the concern of the Federal Government and are dealt with mainly by the Canadian Wildlife Service as described under the next heading. Following this is a special article describing the variety of animal life in Canada today, prepared by scientists of the National Museum of Canada.

The Canadian Wildlife Service.—The Canadian Wildlife Service deals with most wildlife problems coming within the jurisdiction of the Federal Government. It was organized in 1947 to meet the growing need for scientific research in wildlife management and is now a Branch of the Department of Indian Affairs and Northern Development. The Service conducts scientific research into wildlife problems in the Northwest Territories, Yukon Territory and the National Parks, advises the administrative agencies concerned on wildlife management and co-operates in the application of such advice. It administers the Migratory Birds Convention Act, provides co-ordination and advice in connection with the administration of the Game Export Act in the provinces, deals with national and international problems relating to wildlife resources and co-operates with other agencies having similar interests and problems in Canada and elsewhere.

The Migratory Birds Convention Act was passed in 1917 to give effect to the Migratory Birds Treaty signed at Washington in 1916. The Canadian Wildlife Service is responsible for recommending the annual revision of the Migratory Birds Regulations, which govern open seasons, bag limits and hunting practices for migratory game birds. The Act and Regulations are enforced by the Royal Canadian Mounted Police and, in both administration and enforcement, co-operation is received from provincial authorities. There are 93 migratory bird sanctuaries in Canada, having a total area of 44,941.6 sq. miles. Bird banding provides valuable information on the migration of birds and their natural history and is especially useful in waterfowl management. Serially numbered bands supplied by the United States Bureau of Sport Fisheries and Wildlife are used in Canada as well as in the United States.

A national wildlife policy and program was tabled in the House of Commons in 1966 after comprehensive discussions with the provinces and citizens' conservation organizations. This policy provides for co-operative research and management with the provinces on common problems and establishes guidelines and goals for federal research programs.

The serious decline in the numbers of barren-ground caribou revealed in surveys of 1948-49 and 1955-56 continues to cause grave concern. In 1965 the herds numbered about 250,000 animals. Excessive human kill, the destruction of winter range by forest fires, and poor calf survival during years of bad weather are the major causes of the decline. In April 1966 the Service began an intensive two-year study of herds in Keewatin and northern Manitoba to provide data for management. Studies of wolf-caribou relationships and of the arctic fox were completed in 1966. Studies were continued on mink, muskrat, beaver, and polar and grizzly bear. Big game mammals in the National Parks were the object of continued study, special attention being given to mountain sheep and elk in the Mountain Parks. In Wood Buffalo National Park, investigations into the problems of disease and low reproductive rates among bison were continued. Studies of the relationship between forests and wildlife were continued in New Brunswick.

The loss of wetlands to drainage and filling for agricultural and other purposes poses a serious threat to the waterfowl resource. The Service is participating with the provinces

* The conservation of wild fur-bearing animals in the different provinces is discussed in the Fisheries and Furs Chapter, Part II, and information on provincial conservation of fisheries resources is given in Part I of the same Chapter, together with data relating to the work of the Fisheries Research Board of Canada and to international fisheries conservation (see Index).

in a major program of preserving wetlands by purchase and long-term lease. In 1967, after completion of pilot studies, a program to preserve about 4,000,000 acres of wetlands at an annual cost of over \$5,000,000 was begun.

Much time was devoted to species greatly reduced in number or in danger of extinction, such as the trumpeter swan and whooping crane. Six eggs of the latter species were taken from Wood Buffalo National Park to provide the nucleus of a captive breeding population. Five of the eggs were hatched successfully. The progeny will be released into the wild as soon as a large enough supply of breeding birds has been developed. A country-wide harvest survey will be made possible by the Canada Migratory Game Bird Hunting Permit, sold for the first time in 1966. About 385,000 waterfowl hunters purchased permits. A second survey will ascertain the species and age composition of the harvest. Other continuing programs include an annual survey of crop damage in the Prairie Provinces, Arctic bird banding and participation in a program to reduce bird hazards at airports. Substitutes for lead shot are being studied in order to eliminate the large annual loss of waterfowl from lead poisoning. Pesticide research, just now developing, aims at measuring effects on wild animals of the environmental contamination by toxic chemicals; populations of songbirds, gulls and falcons are currently under study. Subjects of research in limnology include productivity of National Park waters and the biology of fish and associated fauna. Adequate stocks of game fish are provided and maintained through modern methods of management where they can be applied without detriment to the aesthetic values of the areas concerned.

The Service's research staff totals about 70. Specialists covering mammalogy, limnology, migratory bird populations, migratory bird habitat, ARDA, pesticides, pathology and biometrics are stationed at the head office in Ottawa. Offices are located in Fort Smith and Inuvik, N.W.T.; Whitehorse, Y.T.; Vancouver, B.C.; Edmonton and Calgary, Alta.; Saskatoon, Sask.; Winnipeg, Man.; Ottawa and Aurora, Ont.; Quebec City, Que.; Fredericton and Sackville, N.B.; Halifax, N.S.; and St. John's, Nfld. Headquarters for the Western Region is in Edmonton and for the Eastern Region in Ottawa. Sixteen officers are engaged in an inventory of wildlife land capability under the ARDA program (see Chapter X). A number of university graduates and undergraduates are engaged annually to assist in summer field work and 16 scholarships of \$1,200 each were awarded in 1967 to graduate students in wildlife and allied fields.

ANIMAL LIFE IN CANADA TODAY*

Introduction

The animals of Canada range over some 3,852,000 square miles of territory that, with Alaska, makes up the northern part of the North American Continent. Except in some southern coastal areas, the climate of the region consists of long severe winters and short warm summers. Consequently, the animal life is relatively sparse (compared to the tropics) and consists mainly of widely eurytopic species, able to survive and propagate under extreme physical conditions.

Of Canada's estimated 100,000 different kinds of animals, only 1,500 species are vertebrates (animals with backbones); all others are invertebrates. In other words, of every 100 kinds of animals occurring in a given part of Canada, only one or two are likely to be a mammal, bird, reptile, amphibian, or fish. The overwhelming majority of species will be animals without backbones such as insects, spiders, crustaceans, worms, molluscs, jellyfish, sponges, and single-celled animals. The vertebrates, because of their large size and living habits, are much more conspicuous and familiar to us, and occupy a more important place in our concept of nature than is merited on the basis of numbers alone.

* Prepared by scientists of the Zoology Division, National Museum of Canada as follows: Introduction, E. L. Bousfield, Chief Zoologist; The Mammals of Canada, P. M. Youngman, Curator of Mammals; The Birds of Canada, W. Earl Godfrey, Curator of Birds; Amphibians and Reptiles in Canada, Francis R. Cook, Curator of Herpetology; Canada's Fish Fauna, D. E. McAllister, Curator of Fishes; The Arthropods of Canada, E. L. Bousfield; The Mollusca of Canada, A. H. Clarke, Jr., Curator of Molluscs; and Canadian Marine Invertebrate Life, N. A. Powell, Curator of Invertebrates, and E. L. Bousfield.

Animals are sometimes regarded as motile, chemically complex, self-perpetuating entities that, in many different fashions, convert food protein of one type into food protein of another. Unlike plants, animals are not able to synthesize their own body proteins from basic molecules, energized by sunlight. The primary animal feeding types, or food converters, are herbivorous and feed essentially on plant material. These in turn are eaten by carnivores which may also prey on each other. Some animals, particularly among the vertebrates (including man), are omnivorous and are able to utilize, to some degree, both plant and animal protein. Many groups of invertebrates, because of their small size, are essentially herbivorous. On the other hand, virtually all vertebrate species feed on animal protein at one stage or another of their life history but some (especially in the adult stage), such as the ungulate mammals, tortoises, and many birds, have become secondarily adapted to feeding on plant material. For animal protein, man feeds primarily on other vertebrates or their products and, in modern times, derives only a small proportion of his sustenance from invertebrates (shellfish, shrimps) or their products (honey).

Although some invertebrate animals are obviously man's benefactors (bees, silkmoths, earthworms), the group as a whole causes man his greatest physical discomfort, financial loss, disease, and even death. Canadians are universally aware of damage caused by insects and other arthropods that destroy man's crops, riddle his clothing and household furnishings, parasitize his domestic animals, bite and sting his hide and infect his body with disease, undermine his buildings and generally contribute to life's problems. Canadians may be less aware of the expensive measures required to repair damage by other invertebrates, particularly in the marine environment. Shipworms and gribbles reduce wharves and pilings to damp sawdust; barnacles, mussels, sea mosses and hydroids foul the bottoms of boats and clog water conduits; and swarms of sea lice and amphipod crustaceans strip the bait from fishing lines and lobster pots and even eat the defenceless lobsters in their crowded holding trays. Thus, if man did not realize the inestimable value of invertebrates in the pollination of plants and in the food cycle of nature, a cycle necessary to his own existence, he might very well be tempted to put the invertebrates on the negative side of the balance sheet!

Canadians tend to be more familiar with the terrestrial fauna than with the animals of fresh and salt water. Thus, among the vertebrates, the aquatic fish are least familiar to us and, among the invertebrates, the aquatic crustaceans are less well known than the essentially terrestrial insects and spiders. Except for arthropods and molluscs, few invertebrate groups are significantly terrestrial, the earthworms (about 25 Canadian species, mostly introduced) being a notable exception. Their close cousins, the microdriles (about 60 Canadian species), and their more distant cousins, the leeches (about 40 Canadian species), occur mainly in fresh water but a few are marine. The flat worms (Platyhelminthes) have free-living members in fresh and salt water; the flukes and tapeworms are parasitic in higher animals and have a complicated life history involving two or more hosts, one of which is usually aquatic.

Taxonomically, the vertebrate animals of Canada are fairly well known. Even among the fishes, the likelihood of a species new to science being found in the region is slim. The invertebrates, on the other hand, are much less well known. In some groups, such as the ubiquitous minute worm-like nematodes, fewer than 1,000 Canadian species are known, probably representing only 10 p.c. of the total fauna. In certain parasitic worm-like animal groups (Acanthocephala, Nematomorpha) and some free-living aquatic groups (Echiura, Tardigrada) only a few Canadian species are known. Even in relatively well-studied micro-organisms of fresh water, such as the Rotifera ('wheel-bearing' animalcules) and their relatives (more than 1,000 Canadian species), much is yet to be learned. Particularly rewarding fields of systematic research await students of the microscopic interstitial animals of the soil and sea bottom, and of the macro-invertebrates of the Pacific Coast of Canada.

The Mammals of Canada

Mammals are the most successful and intelligent of the land vertebrates. They are warm blooded, have a four-chambered heart, possess hair at some stage of development, and suckle their young after birth. They evolved from a mammal-like reptile stock in the Triassic. Living mammals are members of three major evolutionary lines, the monotremes (Echidna and Duckbilled Platypus of Australia); the marsupials (the Opossum and numerous Australian forms); and the placentals (all other living orders of mammals).

Since the end of the Mesozoic, mammals have increased rapidly in numbers and diversity. Even within the three major areas of habitation, terrestrial, aquatic and aerial, there has been much specialization. Various terrestrial mammals have developed many modifications for running, leaping, burrowing and arboreal locomotion. Aquatic mammals have developed modifications for various stages of life in the water from amphibious types such as water shrews and otters to strictly aquatic mammals such as the whales and sea cows. A number of arboreal mammals have developed gliding membranes, between fore and hind limbs, to assist in leaping through the air. True flight has been developed only by the bats.

Canada harbours about 193 species of mammals varying in size from the giant Blue Whale (*Balaenoptera musculus*) to the minute Pigmy Shrew (*Microsorex hoyi*). The kinds of mammals differ greatly from tundra to boreal forest, prairies, and eastern deciduous forest. The greatest density of species occurs in the western mountains and the least density in the high Arctic.

Since Canada was almost entirely covered by glaciers only a few thousand years ago, the terrestrial mammal fauna is a reflection of the movement of various species from northern and southern unglaciated refugia back into the deglaciated area. Some South American species, such as the Opossum (*Didelphis marsupialis*) and the Porcupine (*Erethizon dorsatum*), have pushed north into Canada, but the greatest number of species were derived from North America and Asia.

Terrestrial species occurring both in Canada and the Old World include Arctic Hare (*Lepus timidus*), Least Chipmunk (*Eutamias minimus*), Beaver (*Castor fiber*), Arctic Ground Squirrel (*Spermophilus undulatus*), Northern Red-backed Mouse (*Clethrionomys rutilus*), Northern Vole (*Microtus oeconomus*), Singing Vole (*Microtus gregalis*), Siberian Lemming (*Lemmus sibiricus*), Arctic Fox (*Vulpes lagopus*), Red Fox (*Vulpes vulpes*), Brown Bear (*Ursus arctos*), Polar Bear (*Ursus maritimus*), Ermine (*Mustela erminea*), Least Weasel (*Mustela nivalis*), Wolverine (*Gulo gulo*), Wapiti (*Cervus elaphus*), Moose (*Alces alces*) and Caribou (*Rangifer tarandus*). Numerous other species have close relatives in the Old World.

Examples of species with broad ranges in Canada are Masked Shrew (*Sorex cinereus*), Water Shrew (*Sorex palustris*), Little Brown Bat (*Myotis lucifugus*), Varying Hare (*Lepus americanus*), Woodchuck (*Marmota monax*), Red Squirrel (*Tamiasciurus hudsonicus*), Deer Mouse (*Peromyscus maniculatus*), Heather Vole (*Phenacomys intermedius*), Meadow Vole (*Microtus pennsylvanicus*), Gray Wolf (*Canis lupus*), Black Bear (*Ursus americanus*), Ermine (*Mustela erminea*), Mink (*Mustela vison*), Lynx (*Felis canadensis*), Moose (*Alces alces*) and Caribou (*Rangifer tarandus*).

Species with limited western ranges include Dusky Shrew (*Sorex obscurus*), Pika (*Ochotona princeps*), Hoary Marmot (*Marmota caligata*), Montana Vole (*Microtus montanus*), Northern Vole (*Microtus oeconomus*), Singing Vole (*Microtus gregalis*) and Mule Deer (*Odocoileus hemionus*).

Some species, such as the Varying Lemming (*Dicrostonyx torquatus*), Arctic Hare (*Lepus timidus*), Arctic Fox (*Vulpes lagopus*) and Muskox (*Ovibos moschatus*), have ranges limited to the Arctic while others have southern ranges barely pushing north into Canada, such as Pacific Water Shrew (*Sorex bendirii*), Shrew-mole (*Neurotrichus gibbsii*), Townsend's Mole (*Scapanus townsendii*), Nuttall's Cottontail (*Sylvilagus nuttallii*), Eastern Cottontail (*Sylvilagus floridanus*), Townsend's Chipmunk (*Eutamias townsendii*), Plains Pocket Gopher (*Geomys bursarius*), Great Basin Pocket Mouse (*Perognathus parvus*), Ord's

Kangaroo Rat (*Dipodomys ordii*), White-footed Mouse (*Peromyscus leucopus*), Montana Vole (*Microtus montanus*), Townsend's Vole (*Microtus townsendii*), Sagebrush Vole (*Lagurus curtatus*), Black-footed Ferret (*Mustela nigripes*) and Spotted Skunk (*Spilogale putorius*).

Numerous species of Canadian mammals are rare or endangered in some part of their range, due usually to a combination of factors including destruction of habitat and excessive hunting pressure. Notable among these are Black-tailed Prairie Dog (*Cynomys ludovicianus*), Swift Fox (*Vulpes velox*), Wolf (*Canis lupus*), Brown Bear (*Ursus arctos*), Polar Bear (*Ursus maritimus*), Marten (*Martes americana*), Black-footed Ferret (*Mustela nigripes*), Cougar (*Felis concolor*), Wapiti (*Cervus elaphus*), Sea Otter (*Enhydra lutris*) and Bison (*Bison bison*) as well as several species of whales.

A list of the 34 families of mammals found in Canada, showing the number of species occurring in Canada, follows: Didelphidae (New World Opossums), 1; Insectivora (Insectivores), 12; Talpidae (Moles), 6; Vespertilionidae (Vespertilionid Bats), 16; Molossidae (Molossid Bats), 1; Hominidae (Man), 1; Ochotonidae (Pikas), 1; Leporidae (Hares and Rabbits), 6; Aplodontidae (Mountain Beavers), 1; Sciuridae (Squirrels), 23; Geomyidae (Pocket Gophers), 2; Heteromyidae (Heteromyids), 3; Castoridae (Beaver), 1; Muridae (Rats and Mice), 32; Zapodidae (Jumping Mice), 4; Erethizontidae (New World Porcupines), 1; Ziphiidae (Beaked Whales), 7; Physteridae (Sperm Whale), 2; Monodontidae (Monodontids), 2; Delphinidae (Delphinids), 13; Eschrichtidae (Gray Whale), 1; Balaenopteridae (Balaenopterid Whales), 5; Balaenidae (Baleen Whales), 3; Canidae (Canids), 6; Ursidae (Bears), 3; Procyonidae (Procyonids), 1; Mustelidae (Mustelids), 14; Felidae (Cats), 3; Otariidae (Eared Seals), 3; Rosmaridae (Walrus), 1; Phocidae (Hair Seals), 7; Cervidae (Cervids), 5; Antilocapridae (Pronghorn), 1; Bovidae (Bovids), 5.

The Birds of Canada

Canada's rich avifauna comprises 518 species of recent birds belonging to 64 families. Birds, however, are not distributed uniformly across this vast and ecologically varied land. The Pacific Coast, western mountains, prairies, boreal forests, Atlantic Coast and arctic tundra all have species peculiar to them. Most bird species prefer particular habitats in which to live and consequently the distribution of the various species may be extremely intricate.

Some species like the American Robin (*Turdus migratorius*), Yellow Warbler (*Dendroica petechia*), Common Raven (*Corvus corax*) and Horned Lark (*Eremophila alpestris*) have vast ranges in Canada and many others are only slightly less widely distributed. Some, like Townsend's Solitaire (*Myadestes townsendii*), are confined to the western mountains and others, such as the Chestnut-collared Longspur (*Calcarius ornatus*), to the prairies. Certain species, such as the Glaucous-winged Gull (*Larus glaucescens*), are confined to the West Coast and others, like the Razorbill (*Alca torda*), to the East Coast. The Rock and Willow Ptarmigan (*Lagopus mutus* and *L. lagopus*) are examples of species that have arctic and subarctic ranges and still others, such as Bewick's Wren (*Thryomanes bewickii*) and Bobwhite (*Colinus virginianus*), have nesting ranges mostly south of Canada and penetrate only into small southernmost parts of this country. The Ipswich Sparrow (*Passerculus princeps*) has the most restricted breeding range of all, its entire nesting population being confined to tiny Sable Island, off the coast of Nova Scotia.

A number of species, for example Harcourt's Petrel (*Oceanodroma castro*) and Little Egret (*Egretta garzetta*), are accidental stragglers from distant parts of the world and have been found in Canada only once. Three species, the Great Auk (*Pinguinus impennis*), Labrador Duck (*Camptorhynchus labradorius*), and Passenger Pigeon (*Ectopistes migratorius*) are extinct; and the Eskimo Curlew (*Numenius borealis*) and Whooping Crane (*Grus americana*) have tottered on the brink of extinction for some years. The Wild Turkey (*Meleagris gallopavo*), formerly found in southern Ontario, has been extirpated but the Trumpeter Swan (*Olor buccinator*), once perilously close to extinction, has been saved by wise management practices.

ANIMALS OF CANADA



WALRUS
(*Odobenus rosmarus*)

WOOD FROG (*Rana sylvatica*)



PIKA
(*Ochotona princeps*)



SNOWY OWL
(*Nyctea scandiaca*)

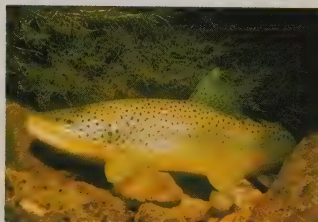


BLUE GROUSE
(*Dendragapus obscurus*)

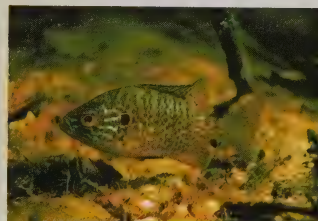
LUNA MOTH (*Actias luna*)



GARTER SNAKE (*Thamnophis sirtalis*)



BROWN TROUT
(*Salmo trutta*)



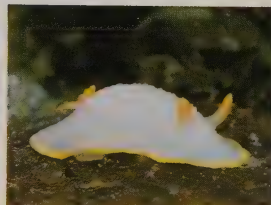
PUMPKIN SEED
(*Lepomis gibbosus*)



CRAYFISH (*Orconectes*)



WOOD SNAIL
(*Triodopsis albobabris*)



SEA SLUG
(*Cadlina marginata*)



GREEN SEA URCHIN
(*Strongylocentrotus drobachiensis*)



CALCAREOUS TUBE-BUILDING WORM
(*Serpula vermicularis*)

Photo Credits:

National Collection of Nature Photographs
National Museums of Canada

Alan G. Loughrey, Ottawa, Ont.

Valerie J. May, Cultus Lake, B.C.

Dr. C. G. Hampson, South Edmonton, Alta.

S. D. MacDonald, Ottawa, Ont.

Samuel Brisson, Sherbrooke, Que.

Bruce C. Windsor, Scarborough, Ont.

Louis M. Richardson, Islington, Ont.

W. D. Addison, Port Arthur, Ont.

Rev. L. C. Harvey, Woodstock, Ont.

Russell J. Gee, Toronto, Ont.

The Ring-necked Pheasant (*Phasianus colchicus*) and Gray Partridge (*Perdix perdix*) have been successfully introduced into many parts of the country by sportsmen. The Starling (*Sturnus vulgaris*) and House Sparrow (*Passer domesticus*) have, since their introduction to Canada, become common widespread pests from coast to coast.

A wide variety of waterfowl and upland game birds offer good hunting during open seasons; it has been estimated that in one recent year about 350,000 persons hunted water fowl in Canada and spent close to \$30,000,000 on that aspect of game-bird hunting alone.

The summer woodlands and fields have excellent populations of song birds including many colourful and melodious species. The Hermit Thrush (*Hylocichla guttata*), widely renowned as one of the world's finest songsters, is found in remoter woodlands from coast to coast.

Although many species spend the entire year in Canada, the majority, particularly those dependent on insect food, snow-free ground or open freshwater lakes and ponds, migrate to warmer climates for the winter months.

A list of the 64 families of birds found in Canada, showing the number of Canadian species in each, follows: Gaviidae (Loons), 4; Podicipedidae (Grebes), 5; Diomedidae (Albatrosses), 3; Procellariidae (Shearwaters and Fulmars), 10; Hydrobatidae (Storm Petrels), 4; Phaethontidae (Tropicbirds), 1; Pelecanidae (Pelicans), 2; Sulidae (Boobies and Gannets), 2; Phalacrocoracidae (Cormorants), 4; Anhingidae (Anhingas), 1; Fregatidae (Frigatebirds), 1; Ardeidae (Hérons), 12; Ciconiidae (Storks), 1; Threskiornithidae (Ibises), 3.

Anatidae (Swans, Geese and Ducks), 46; Cathartidae (American Vultures), 2; Accipitridae (Kites, Hawks, Eagles, and Harriers), 13; Pandionidae (Ospreys), 1; Falconidae (Falcons and Caracaras), 6; Tetraonidae (Grouse), 9; Phasianidae (Quails, Partridges, and Pheasants), 6; Meleagrididae (Turkeys), 1; Gruidae (Cranes), 3; Rallidae (Rails and Coots), 10.

Haematopodidae (Oystercatchers), 2; Charadriidae (Plovers, Surfbirds, and Turnstones), 14; Scolopacidae (Sandpipers and Woodcocks), 36; Recurvirostridae (Avocets and Stilts), 2; Phalaropodidae (Phalaropes), 3; Stercorariidae (Skuas), 4; Laridae (Gulls and Terns), 33; Rynchopidae (Skimmers), 1; Alcidae (Auks, Murres, and Puffins), 14; Columbidae (Pigeons and Doves), 5; Cucullidae (Cuckoos), 2; Tytonidae (Barn Owls), 1; Strigidae (Typical Owls), 14; Caprimulgidae (Goatsuckers), 4; Apodidae (Swifts), 4; Trochilidae (Hummingbirds), 4; Alcedinidae (Kingfishers), 1; Picidae (Woodpeckers), 13.

Tyrannidae (Tyrant Flycatchers), 22; Alaudidae (Larks), 2; Hirundinidae (Swallows), 7; Corvidae (Jays and Crows), 8; Paridae (Titmice), 7; Sittidae (Nuthatches), 3; Certhiidae (Creepers), 1; Cinclidae (Dippers), 1; Troglodytidae (Wrens), 8; Mimidae (Mockingbirds and Thrashers), 4; Turdidae (Thrushes), 13; Sylviidae (Old World Warblers, Gnatcatchers and Kinglets), 4; Motacillidae (Wagtails and Pipits), 3; Bombycillidae (Waxwings), 2; Laniidae (Shrikes), 2; Sturnidae (Starlings), 2; Vireonidae (Vireos), 8; Parulidae (Wood Warblers), 42; Ploceidae (Weaver Finches), 1; Icteridae (Meadowlarks, Blackbirds and Orioles), 12; Thraupidae (Tanagers), 3; Fringillidae (Grosbeaks, Finches, Sparrows and Buntings), 56.

Amphibians and Reptiles in Canada

Similar to the pattern of concentration of human settlement in Canada, amphibians and reptiles are most numerous (in terms of total number of species) in a relatively narrow region along the country's southern border. To the north there are progressively fewer species. At the mouth of the Mackenzie River and in northern Quebec, the northern distribution limits for these cold-blooded vertebrates, there is only one species represented. In Canada as a whole, there has been recorded a total of 82 species, or 110 forms when all races or subspecies of those species having more than one recognizable race in this country are included. Of these, 50 are amphibians (25 frogs, toads and treefrogs, 25 salamanders and newts) and 60 are reptiles (38 snakes, 6 lizards and 16 turtles).

No one species occurs throughout the country, although the Wood Frog (*Rana sylvatica*) has been recorded in both Yukon Territory and the Northwest Territories (it occurs north to the mouth of the Mackenzie River, within the Arctic Circle) and has been collected in every province except Newfoundland. Newfoundland actually has no native amphibians or reptiles because it has been separated from the mainland by a relatively deep channel since the glacial retreat 10,000 years ago. Amphibians and reptiles spreading north and repopulating the country were presumably excluded by an impassable, to them, saltwater barrier. Other large islands, such as Prince Edward Island and Vancouver Island, had land connections with the mainland for a sufficient period to receive the advancing immigrants before the melting of the receding continental ice sheet raised the sea level to the point where the bridge was inundated.

The most northerly occurring reptile is a snake—the Common Garter Snake (*Thamnophis sirtalis*) which has been recorded at Fort Smith, N.W.T. This snake is also the most widely distributed reptile in the country and, although apparently absent from Yukon Territory, it has been recorded in one form or another (five or six races of it occur in Canada) in every province except Newfoundland.

Three species of rattlesnake, one having two distinct races, are Canada's only poisonous reptiles, although several harmless species, particularly in the east, are repeatedly mistaken for rattlesnakes, copperheads or water moccasins. The latter two forms have never been collected in Canada. Specimens erroneously identified as one or the other have always turned out to be the Fox Snake (*Elaphe vulpina*), the Milk or House Snake (*Lampropeltis triangulum*), the Northern Water Snake (*Natrix sipedon*) or some equally harmless, although relatively large (by Canadian standards any snake three feet or more in length is large) species. Most difficult of the poisonous snake fables to comprehend is the evil reputation attached to a little (rarely over 12 inches) snake, red underneath and brown, black or grey above. From Nova Scotia to eastern Saskatchewan the Red-bellied Snake (*Storeria occipitomaculata*) is often referred to as the Copper Snake and given deadly qualities by the uninformed and the easily intimidated, yet the tiny mouth and short teeth of this small snake could not succeed even in scratching a human tormentor and it certainly has no poison.

The three poisonous snakes that do occur in Canada are the Massasauga (*Sistrurus catenatus*) in southern Ontario, particularly the Georgian Bay and Bruce Peninsula areas; the Timber Rattlesnake (*Crotalus horridus*) in southern Ontario which may be extinct in Canada since the last known colony was in the Niagara Gorge and a specimen has not been taken there for over 25 years; and the Western Rattlesnake which occurs as two distinct races—the light-coloured Prairie Rattlesnake (*Crotalus viridis viridis*) in southwestern Saskatchewan and southeastern Alberta and the darker Pacific Rattlesnake (*Crotalus viridis oreganus*) in the southern dry interior valleys of British Columbia.

The gradually increasing harshness of the climate is the most common factor preventing the northward spread of a reptile or amphibian species in Canada, although for some species specialization to a particular habitat may prevent wider distribution. The most vulnerable stage is the egg—the most northerly ranging frog (the Wood Frog) has an egg best adapted for development at low temperatures. The most northerly occurring reptile, the Common Garter Snake, bears its young alive and therefore is its own mobile incubating chamber, able to move to the warmest spots at each period of the day and assure the rapid development of the embryos essential in a northern environment.

Although a wide variety of freshwater and terrestrial situations are inhabited by Canadian amphibians and reptiles, only a few marine turtles, migrating from tropical regions during the summer, utilize the saltwater habitat. No amphibian tolerates this environment, although occasionally toads will lay their eggs in brackish pools along the coast.

Canada's Fish Fauna

Canada has a varied and rich fish fauna for the country borders on three oceans, has the longest coastline of any country in the world, and has over one quarter of the world's supply of fresh water. In these many waters, from sparkling mountain torrents to unlit deepsea depths, are known 770 living species, 190 of which occur in fresh water. The fish fauna is far from being thoroughly explored and several species are added to the known fauna each year. At present over 150 species of fossil fishes are known in Canada; about 20,000 species are known altogether in the world.

What is a fish? It is a cold-blooded vertebrate animal, breathing with gills throughout its life and having limbs, if any, in the form of fins. Salamanders have foot-like limbs and whales are warm-blooded so that these forms are not fishes. Three major groups of fishes are found in Canada—the lampreys, the sharks and the bony fishes—the first having only 12 species, the second 49 and the bony fishes the remainder. Each of the three groups is as distinct (or more so) as the groups of birds and of mammals and each species is placed in its own class.

Canada's fish vary in size from the 45-foot-long basking shark to such pygmies as the least darter which seldom exceeds $1\frac{1}{2}$ inches. They vary in form from the flattened rays and skates and the ball-like spiny lumpsucker to the slender elongate quillfish. Structures varied and remarkable are found. The electric ray has organs in its wings capable of giving a considerable shock, the lantern fish has rows of tiny light organs that may be equipped with lenses and reflectors, the deepsea dreamer possesses an illuminated lure for attracting prey, the seasnail has a sucking organ below for clinging to rocks, the herring has tubes from its gas bladder running forward to its inner ear, increasing the sensitivity of its hearing.

It is not only in structure that they vary. Intriguing behaviour patterns include nest-building in the stickleback, burrowing through the sand in the sand lance, flying through the air in the flying fishes, hitching rides on sharks in the remoras. Atlantic salmon tagged in Canada have been caught near Greenland. Chum salmon spawn in Teslin Lake in northern British Columbia after travelling about 2,000 miles up the Yukon River system from Bering Sea. However, much is yet to be learned of the species and habits of the piscine inhabitants of 'inner space' from the point of view of economic utilization of fisheries, of recreation and of advancing man's knowledge of the world around him.

Canada's waters are renowned for their sport fishes. In fresh waters there are at least 50 kinds to tempt the angler. The rainbow trout, native to the west and decorated by an iridescent band along its side, is famed for its head-shaking, lure-throwing jumps. In northern waters the Arctic grayling, resplendent in royal purple, and the orange-spattered Arctic charr await the angler. In the east are found the voracious muskellunge and spunky large and smallmouth basses. The sunfishes and yellow perch are widespread favourites of the young. On the East Coast the Atlantic salmon is considered by its devotees to be the finest gamefish in the world. It rises well to the dry fly and is known to attain weights of over 50 lb.

In the sea waters, too, a host of species awaits the angler or skin diver. On the West Coast are the chinook and coho salmon—the chinook is the mightier, reaching 126 lb., but pound for pound the coho is just as game. The powerful ling cod, attaining lengths of up to five feet, is a worthy quarry for skin divers. Near kelp beds and reefs await a dozen kinds of rockfish painted in hues of red, brown, yellow and green. On the Atlantic Coast is found the bluefin tuna—one caught off Nova Scotia weighed 977 lb. In winter, near river mouths, the tomcod attracts the ice fisherman.

Research on Canadian fishes is undertaken by several organizations. Most provincial governments study and administer their own freshwater sport fisheries, while Quebec includes both marine and freshwater fishes. The federal Department of Fisheries regulates the marine and commercial fisheries, and the Fisheries Research Board of Canada conducts scientific research for it. Canada belongs to several international fishery com-

missions which study and regulate certain fisheries such as salmon, halibut and cod.* All these organizations are primarily interested in regulating fish stocks to give maximum benefit to commercial and sport fisheries. In addition to the Fisheries Research Board of Canada, two other groups are interested in more fundamental research on fishes. The results of these researches are not always immediately evident but, like pure research in electronics or chemistry, there is no doubt that they often have valuable practical results and contribute also to man's knowledge. Universities not only train fisheries biologists and ichthyologists but do independent scientific research, covering such fields as physiology, ecology, ethnology, anatomy, parasitology and population dynamics. The National Museum of Canada and university and provincial museums actively conduct fundamental researches on fishes, their studies dealing primarily with classification and evolution of fish but also with zoogeography, ecology and behaviour. A major product of museum activity is the publication of identification handbooks which contain the results of studies on preserved scientific specimens. In the National Museum of Canada, for example, there are more than 100,000 specimens of over 1,000 species of fishes.

Canada annually harvests about 2,000,000,000 lb. of commercial fishes worth about \$250,000,000 from the sea and fresh waters. About two thirds of this is exported and there remains a large potential for expansion. Current studies indicate a valuable market for a highly nutritive, pure protein, fish flour prepared from Canadian fishes. Sport fisheries are also an important economic asset, attracting many fishermen from outside the country. Beyond the value of this sport in dollars and cents, there is another value no less important—the unmeasurable contribution it makes to the physical and mental well being of its participants. Scientifically, fishes also represent an intellectual resource that can add to man's knowledge.

The Arthropods of Canada

The arthropods are a group of mainly small-sized invertebrate animals that have jointed legs and other appendages and grow by periodically shedding their outer skin or exoskeleton. More than three quarters of Canada's 100,000 species (approximately) of animals belong in this group. It includes the largest animal group, the insects, as well as the arachnids, centipedes, millipedes, and the crustaceans.

The insects are much the most numerous and most diverse arthropod group, both in anatomical structure and in their natural occurrence. They occur throughout the Canadian region, from the Pacific to the Atlantic and from the southern border (where most kinds occur) to the sparsely populated islands of the Arctic where visible activity is limited to but a few weeks each year. Insects have invaded or occupied many types of environments, from the sea surface and intertidal shore zone, through land and freshwater habitats of nearly every permanent and temporary kind, to high alpine lakes and streams and glacial surfaces. The fleas, lice and certain flies are parasitic on diverse kinds of vertebrate and invertebrate animals, including other insects. Virtually no green plant, from unicellular alga to giant Douglas fir, is immune to insect attack or consumption. Almost all of the 27 living world orders of insects are represented in Canada, although some by only one or two species. Well represented are the important orders, namely, the primitively wingless springtails (Collembola) of the forest floor; the primitively aquatic hemimetabolous mayflies (Ephemera), stoneflies (Plecoptera), and dragonflies (Odonata), and the terrestrial cockroaches (Blattaria) and grasshoppers (Orthoptera), all of which have a fossil record stretching back to the late Palaeozoic (nearly 250,000,000 years ago); and the holometabolous primarily terrestrial orders of relatively recent evolution, such as the butterflies and moths (Lepidoptera), two-winged flies (Diptera) and the ants, bees and wasps (Hymenoptera). The caddis flies (Trichoptera), the bugs (Hemiptera), and the beetles (Coleoptera) are other major orders, the last being the world's largest insect group, and in Canada about equal to the Diptera in numbers of species. Well-preserved insect remains of about 250 species are now known from the Cretaceous amber deposits of mid-

* See also Chapter XIV, Part I, Section 4.

western Canada, some genera of which still exist. Of approximately 60,000 insect species and subspecies recorded from Canada, several hundred have not been recorded elsewhere, and many of these (particularly from arctic areas) will prove to be endemic Canadian species.

The arachnida, including the spiders, mites and ticks, harvestmen, scorpions, solifugids, false scorpions and a number of lesser orders, comprise the second largest arthropod group in Canada. Fewer than 10,000 species are known from the region to date but the total number will undoubtedly prove to be several times larger. The mites and ticks (Acari) are by far the largest and most diversified group. Free-living species are common in fresh waters and in marine intertidal habitats. Most species are parasitic on other animals and on plants, and some are vectors of disease (e.g., Rocky Mountain spotted fever). Fewer than 1,000 species of spiders (Araneida) are known from Canada. Most are terrestrial but some live along the seashore and a few (Dolomedes) are aquatic and sometimes prey on small fish. Only about two dozen species of each of the harvestmen or daddy-long-legs (Phalangida) and false scorpions (Pseudoscorpiones) and one each of the sun spiders (Solifugae) and true scorpions (Scorpiones) are known from Canada.

The sea spiders (Pycnogonida) are slender-bodied arachnid-like arthropods that resemble harvestmen. About 50 Canadian species are known, mainly from the Pacific and Arctic coastal regions but some species range into the ocean abyss. The horseshoe crabs (Xiphosura) are not true crabs but are distant cousins of the spiders and scorpions. *Limulus polyphemus* is common on mud flats of the Atlantic Coast north to central Maine, but specimens occasionally turn up in the Fundy region of Eastern Canada.

The centipedes (Chilopoda) and millipedes (Diplopoda) each number about 75 species in Canada. Almost half of the species have been introduced by the early settlers and by subsequent accidental importation with exotic plants. These and a few species of Pauropoda and Symphyla, minute wingless wormlike soil-dwelling arthropods, occur only south of the treeline and the permafrost.

The crustaceans are the largest primarily aquatic group of arthropods. Approximately 1,500 species have been recorded from Canada. The small and microscopic, primitive crustaceans (Entomostraca) including fairy shrimps, tadpole shrimps, clam shrimps, seed shrimps and water fleas, are primarily or exclusively confined to fresh waters, although the seed shrimps (ostracods) and copepods are both marine and freshwater, and the barnacles (cirripedes) are exclusively marine. On the other hand, the larger, macroscopic, more highly evolved crustaceans (Malacostraca), including the nebaliaids, mysid (opposum) shrimps, amphipods, isopods, sea mantis, euphausiids (krill) and the decapod shrimps, hermit crabs and true crabs, live mainly or exclusively in the marine environment. However, a few mysids, several families of isopods and amphipods as well as some decapods (e.g., crayfish) are more common in fresh waters, and one group of each of the isopods (sow bugs, pill bugs) and amphipods (beach fleas, leaf litter hoppers) have become essentially terrestrial.

Crustaceans are very important in the economy and ecology of the aquatic environment. In the sea, the copepods are the dominant planktonic animals that feed upon the microscopic phytoplankton of the upper water layers and in turn provide the basic food item for marine fishes, and hence indirectly for man. *Calanus finmarchicus* often swarms at the surface over the Canadian Atlantic shelf region (e.g., Grand Banks) and colours the sea reddish. Crustaceans of wider gastronomic familiarity (copepods are actually edible) are the larger, free-swimming decapod shrimps (*Pandalus borealis*, *P. montagui*) or bottom dwelling crustaceans such as the American lobster (*Homarus*) and larger crabs (*Chionecetes opilio*, *Geryon quinquedens*) that can be fished in deeper parts of the shelf region. Since 1950, the average value of the Canadian maritime lobster industry has been approximately \$25,000,000 a year and has been holding up well despite a gradual decline in availability of market-size animals. Cancer crabs, frequently captured in lobster pots, are edible but too small to be profitably marketed. On the Pacific Coast, however, the Dungeness crab (*Cancer magister*) is the basis for a valuable crab fishery.

Cancer crabs and the green crab (*Carcinides maenas*) that invaded the Fundy region during the past ten years, do serious damage to clam and oyster beds. The lady crab (*Ovalipes ocellatus*) is a colourful free-swimming species found in Minas Basin and Northumberland Strait. Four species of hermit crabs are commonly taken in the Atlantic region, the largest of which is the blue-handed hermit (*Pagurus acadianus*) living in empty shells of large moon snails and whelks. The sand shrimp (*Crango*) is very common in the sandy shallows of protected beaches. Amphipod crustaceans are virtually everywhere, living mainly on or in the bottom. They may be free-living, burrowing, tube-dwelling, or even parasitic, and form one of the basic food items of most bottom-feeding fishes such as cod, halibut, hake and sole. The seaside visitor may find beach fleas and beach hoppers (*Orchestia*, *Talorchestia*) hiding under debris or in the moist sand at the drift line. He may disturb the scuds (*Gammarus*, *Marinogammarus*) sidling about under stones or algae at mid-tide levels, or screen out the squat-bodied haustoriids that literally swim through the wet sand underfoot with astonishing rapidity, or perhaps net the free-swimming scuds (*Callinopis*, *Gammarellus*, *Pontogeneia*) that occur in cloud-like swarms among the kelps, the fucoids and Irish moss of wave-battered shores. The opossum shrimps (*Mysis*, *Neomysis*) frequently swarm among the eel-grass in brackish water estuaries at river mouths. The isopods (e.g., *Idothea*) are flattened above and below like a cockroach, enabling them to crawl about among the boulders and algae, to which they cling with strong curved claws of their seven pairs of walking legs.

The barnacles are sessile or sedimentary crustaceans living inside their calcareous walls or plates attached to a rock or other firm substrate. They feed by extending their coiled filamentous legs out between their opercular plates and straining minute particles from the sea water. The common acorn barnacle (*Balanus balanoides*) lives intertidally on rocky shores of the Atlantic and parts of the Arctic and Pacific shores of Canada. Other species (*Balanus cariosus*, *B. improvisus*) are more common in estuaries and protected bays and are frequent fouling organisms on vessels, wharves and aids-to-navigation. Goose barnacles (*Lepas* spp.) attach to free-floating objects such as boxes, planks, bottles and net floats and are washed ashore on open ocean coasts, usually following onshore winds. One species (*Mitella polymerus*) attaches in clusters to surf-pounded rocks at mid-tide level along the Canadian Pacific Coast.

The arctic intertidal, because of severe winter temperatures and heavy ice scouring, is virtually without crustacean life, except for those species that can burrow in the bottom or invade the region during the ice-free summer. Amphipods and decapod shrimps are the dominant arctic bottom crustaceans, but only a very few crabs and hermit crabs are present.

The Pacific Coast, on the other hand, has a very rich fauna of most major crustacean groups, largely because of its nutrient-rich waters, its relatively uniform seasonal range of temperature, and freedom from winter icing. Approximately three times as many species are found there as at equivalent latitudes on the Atlantic Coast. True crabs are dominant, even in the intertidal zone where *Hemigrapsus nudus* and *H. oregonensis* abound. Five species of native *Cancer* crabs provide stiff competition to the newly introduced lobster. Several species of small pinnixid crabs live parasitically within the mantle cavity of large bivalve molluscs. More than 10 kinds of hermit crabs, mostly small species of *Pagurus*, and of lithodid crabs (*Petrolisthes*, *Emerita*, *Haplogaster*, and the giant edible king crab *Paralithodes*) are also known from the Pacific Coast, and three kinds of ghost shrimps (*Callinassa*, *Upogebia*) riddle the mud flats with their deep inter-connected burrows. About 50 kinds of penaeid and caridean shrimps and prawns, several of commercial importance, have been recorded from the fiords, inlets and shelf waters of this much-dissected coastline. Amphipods and isopods are also more varied in type and more abundant numerically than on the Atlantic Coast, although represented by different species and usually different genera in comparable intertidal habitats. The crustacean fauna of open sandy beaches is particularly well-developed and shows striking intertidal zonation, perhaps reflecting a rich food supply, protection from desiccation by frequent coastal fogs, and a relatively stable regional geological history.

Although almost all of Canada's freshwater bodies have been formed only since the end of the last ice age, a surprisingly rich and varied freshwater crustacean fauna has since managed to occupy the region from coast to coast and to the limit of melt ponds in the Arctic islands.

Fairy shrimps and tadpole shrimps occur only in temporary ponds, devoid of fishes and vertebrate predators, where they survive unfavourable periods of drought and freezing temperatures by means of resting eggs. Many of the microcrustaceans such as water fleas (*Daphnia*, *Simocephalus*, *Bosmina*, *Chydora*) and copepods (*Cyclops*, *Diaptomus*) living planktonically also survive and are transported from pond to pond by wind-blown or bird-carried resting eggs.

Ostracods are small active crustaceans with a seed-like bivalve shell, often remarkably sculptured, that inhabit all types of bottoms in both standing and running waters including rooted vegetation, algal mats, mud, sand and rubble. Eggs develop parthenogenetically and are resistant to desiccation for up to 20 years.

Among the higher crustaceans, the Amphipoda are represented by about 30 freshwater species of which *Gammarus lacustris*, *Hyalella azteca*, and *Crangonyx richmondensis* subsp. are the most widely distributed; the Isopoda by about a dozen species (*Asellus*, *Lircaeus*) and the Mysidacea by *Mysis relicta* of the larger deeper lakes. The decapods include the shrimp *Palaemonetes kadiakensis* in the Great Lakes system, and several species of the crayfish genera *Pacifastacus*, *Cambarus*, and *Orconectes*, some of which occur in Canada only in southern Ontario. Some crayfish species are edible, although not generally consumed in Canada, and the semi-terrestrial species of *Cambarus* do damage to lawns and embankments by tunnelling and by constructing earthen mounds or 'chimneys' at their burrow entrances.

The Mollusca of Canada

The Mollusca are an economically important, geologically ancient and biologically diverse segment of the fauna of Canada. The Phylum contains six classes: Monoplacophora, Amphineura (chitons), Gastropoda (snails, slugs, etc.), Scaphopoda (tusk shells), Pelecypoda (bivalves, i.e., clams, mussels, etc.) and Cephalopoda (squids and octopods), and all of these except Monoplacophora occur in Canada. About 2,500 species of Canadian marine, freshwater and land molluscs representing 185 families have been recorded. In fact, among all animals the molluscs rank second only to the arthropods (insects, crabs, amphipods, etc.) in having the largest total numbers of known species. In 1966 over 49,000,000 pounds of clams, oysters, scallops and squids were commercially harvested in Canada. The damage caused by teredos (shipworms) and other injurious molluscs amounts to several millions of dollars annually. Many other examples of the medical and economic importance of molluscs could also be cited. So, although Canadian species are not as colourful or exotic as tropical species and are not as eagerly sought by shell collectors, they are nevertheless of great significance to man.

On the Atlantic Coast a warm shallow-water marine molluscan fauna occurs in the vicinity of Northumberland Strait and in isolated bays in Nova Scotia (Minas Basin, St. Mary Bay), characterized by the oyster *Crassostrea virginica* and the quahog *Mercentaria mercenaria* and representing a somewhat reduced, disjunct segment of the Virginian fauna; this fauna ranges elsewhere from Cape Cod to Cape Hatteras.

Except for these pockets of warm-water species, the Maritime region as far north as southern Newfoundland and the south shore of the St. Lawrence estuary is occupied by the North Atlantic Boreal Fauna which is very similar to that of northern Europe and is characterized by such species as the whelk *Buccinum undatum*, the mahogany clam *Arctica islandica* and the horse mussel *Modiolus modiolus*.

North of this region and extending throughout Hudson Bay, the Arctic Archipelago, and west to Alaska, an Arctic Fauna thrives which, in turn, is much like that of Greenland

and arctic Eurasia. The Iceland cockle *Clinocardium ciliatum*, the Greenland cockle *Serripes groenlandicus*, and the whelk *Buccinum hydrophanum* are widespread members of this fauna.

On the Pacific Coast an even richer fauna occurs. The northern portion of the Transition Zone between the Californian and Aleutian faunal regions extends to Puget Sound and southern Vancouver Island. Characteristic species of that region are Lewis' moon-snail *Polinices lewisi*, the purple dwarf olive *Olivella biplicata* and the geoduck clam *Panope generosa*. The Aleutian faunal region extends from southern Vancouver Island to the Alaska Peninsula. Typical species of that region are the frilled dogwinkle *Thais lamellosa*, the false jingle shell *Pododesmus macroschismus*, and the giant Pacific scallop *Pecten caurinus*.

The freshwater molluscs of Canada (gastropods and pelecypods) number about 175 species and subspecies and these are restricted, in part, to separate watersheds. The Maritimes and eastern Quebec are populated by the Atlantic Coastal Plain Fauna. This is typified by the freshwater mussels *Margaritifera margaritifera*, *Elliptio complanata*, and *Anodonta cataracta*. The Great Lakes-St. Lawrence drainage, especially the Lake Erie and Lake St. Clair portion, contains a rich fauna derived principally from the Mississippi Basin through post-glacial confluence. Characteristic species here are the freshwater mussels *Amblema plicata*, *Lasmigona costata*, and *Actinonaias carinata* and the snails *Pleurocera acuta* and *Goniobasis livescens*. Unfortunately, many species in this region are in danger of gross reduction or possible extinction through pollution.

North of that region the huge Hudson Bay and Arctic watersheds contain about 100 species derived from adjacent source areas after deglaciation. Some species (*Stagnicola arctica*, *Pisidium* spp., etc.) occur as far north as southern Baffin Island and southern Victoria Island. The Red River system in Manitoba supports more freshwater species than any other drainage in the Hudson Bay or Arctic watershed because of long-term confluence with the Mississippi Basin. Such freshwater mussels as *Amblema plicata*, *Quadrula quadrula*, *Proptera alata* and many others occur there. Elsewhere within the subarctic region the distribution of some species is broadly co-ordinated with phytogeographic zones but since internal zoogeographic barriers are absent there is little concordance between molluscan distributions.

The Rocky Mountains and the Pacific coastal region contain a distinct freshwater molluscan fauna characterized by the snail *Fluminicola nuttalliana* and the mussels *Anodonta wahlamettensis* and *Gonidea angulata*. Some elements of this fauna (*Anodonta kennerleyi*, *Menetus cooperi*, *Helisoma binneyi*, etc.) have also penetrated east of the mountains into north-central Alberta. The Yukon Territory, Alaska and adjacent portions of the Northwest also contain a few endemic species (e.g., *Anodonta beringiana*, *Stagnicola atkaensis* and *S. kennicotti*) presumably isolated in the Beringian Refugium during the Pleistocene.

The land molluscs of Canada (snails and slugs—about 240 species and subspecies) are broadly assignable to three zoogeographic areas designated as Eastern, Central and Western, although many distributional anomalies are known. Examples of these fauna are: Eastern Region—*Triodopsis albolabris*, *Mesodon thyroides*, and *Mesodon sayana*; Central Region—*Triodopsis multilineata*, *Mesodon zaletus*, and *Discus patula*; and Western Region—*Oreohelix strigosa*, *Haplotrema vancouverensis*, and *Prophysaon andersoni*. A number of terrestrial species occur in all three regions, however (e.g., *Zonitoides arboreus*, *Discus cronkhitei*, and *Cionella lubrica*), and some occur even at the treeline which is the usual climatic limit for land snails. In addition, many European species have been introduced at various locations in Canada (e.g., *Arion ater* in Newfoundland, *Cepaea memorialis* in southern Ontario and in the Vancouver area, and *Hygromia striolata* at Quebec City) but as yet no foreign agricultural pest species have become established here.

Canadian Marine Invertebrate Life

Canada's extensive coastline is bounded by three major ocean masses, the North Atlantic, Arctic and North Pacific. As a result of physical characteristics of each of these

masses, a rich and varied marine invertebrate fauna occurs, particularly along the Atlantic and Pacific coastal areas. The seashore fauna of Arctic Canada is impoverished, mainly owing to the abrasive action of shore ice in winter. Sublittorally, however (40 metres and deeper), a moderately varied, although somewhat numerically reduced assemblage of mainly circumpolar species exists.

The Atlantic Coast of Canada provides a wide range of summer temperature conditions but its fauna is essentially a cold-temperate or boreal one. The cold, southward flowing Labrador current, however, provides a favourable environment for numerous sub-arctic species, for example among the sea mosses (Phylum Bryozoa). Between the Gulf of St. Lawrence and Cape Cod to the south, these two faunal constituents co-exist but the sub-arctic fauna finds its southern boundary there. On the other hand, the summer-warm surface waters of the southern Gulf of St. Lawrence permit the existence of a third temperature group, the Virginian (temperate-zone) fauna, isolated from its main populations south of Cape Cod.

Canada's richest marine invertebrate fauna undoubtedly occurs along its Pacific Coast. In this region there is strong upwelling of nutrient-rich coastal bottom water supplemented by heavy seaward flow of fresh water from Pacific watersheds. The resulting bountiful food supply enables a remarkable variety of species to exist, frequently in great abundance. At comparable latitudes the number of Pacific species is more than threefold that of the Atlantic Coast. To the layman, perhaps the most striking manifestation of this abundance is the profusion of great green sea anemones (*Bunodactis xanthogrammica*) and common starfish (*Pisaster ochraceus*) along the rocky, surf-pounded shores of the Pacific Coast.

As on the Atlantic Coast, the invertebrate fauna of the Pacific Coast contains two main elements: a sub-arctic group, and a larger Pacific boreal assemblage. Some of the sub-arctic species (particularly among the sea mosses) reach their southern boundary at Vancouver Island but, due to uniformly low summer temperatures along much of the American Pacific Coast, certain of the sub-arctic and many of the boreal species from all of the major phyla occur southward to about Point Conception, California. Also, a small number of warm-water species, native to places south of Point Conception or elsewhere in the world, are isolated in the summer-warm surface waters of the Strait of Georgia in British Columbia.

Species of most marine invertebrate phyla are commonly found along Canada's rocky shores. On the Atlantic Coast are frequently found sponges (Porifera) such as the tufted sponge (*Grantia ciliata*), the eyed finger sponge (*Chalina oculata*), and the crumb-of-bread sponge (*Halichondria panicea*); among the coelenterates are the white sea jelly (*Aurelia aurita*), the great pink jellyfish (*Cyanea capillata* var. *arctica*) and the hydroids *Bougainvillea superciliaris* and *Hydractinia echinata*. The segmented marine worms include the scale worm (*Lepidonotus squamatus*) and the tube worm (*Amphitrite figulus*). The spiny-skinned animals (Echinodermata) include the common purple starfish (*Asterias vulgaris*), the blood star (*Henricia sanguinolenta*), the sun star (*Crossaster papposus*), the basket star (*Gorgonocephalus arcticus*), the daisy brittle star (*Ophiopholis aculeata*), the green sea urchin (*Strongylocentrotus drobachiensis*) and the large northern sea-cucumber (*Cucumaria frondosa*). Among a dozen or so conspicuous sea mosses may be mentioned *Lichenopora verrucaria*, *Alcyonidium polyomm*, *Bugula turrita*, *Electra pilosa*, and the horned sea wrack *Fuflura foliacea*.

An abbreviated listing would scarcely do justice to the immensely diverse Pacific marine fauna. Some species are common to the two coasts, but the dominant Pacific species are endemic. The large erect sponge (*Neosperiopsis rigida*), the encrusting sponge (*Haliclona rufescens*) and the cake-frosting sponge (*Xestospongia vanilla*) are frequent at low water levels. The large white sea anemone (*Metridium senile*) is common on wharf pilings and the solitary anemone (*Bunodactis elegantissima*) and the great green sea anemone (*B. xanthogrammica*) coat the lower intertidal rocks. Slender hydroids include *Eudendrium californicum*, *Garveia annulata*, *Hydractinia milleri*, and *Sertularia turgida*. Con-

spicuous among marine worms are the calcareous tube-building *Serpula vermicularis* and *Amphitrite robusta*, the colonial *Eudistylia polymorpha*, and the free-swimming clam worm *Nereis virens*. Attached to subtidal rocks is the lamp-shell *Terebratalia transversa* (Phylum Brachiopoda). The curious worm-like *Phoronis vancouverensis* forms gelatinous masses on intertidal rocks. The echinoderm fauna of this region is probably the richest in the world. Conspicuous intertidal species are the leather star (*Dermasterias imbricata*), sea bat (*Patiria miniata*), the very large sunflower star (*Pycnopodia helianthoides*), and the common starfish (*Pisaster ochraceus*). Echinoids include the green sea urchin, the giant red urchin (*Strongylocentrotus franciscanus*), and the large purple urchin (*S. purpuratus*). The large soft-bodied California cucumber *Stichopus californica*, the reddish cucumber *Cucumaria miniata* and the white cucumber *Eupentacta quinquearmata* are also common.

The sea moss fauna of coastal Pacific Canada is extensive although not yet completely documented. Among the more common species are: *Cribrilina annulata*, *Tubulipora tuba*, *Filicrista geniculata*, *Alcyonidium polyommum*, *Dendrobeatia curvirostris*, *Bugula pacifica*, *Tricellaria occidentalis*, *Scrupocellaria californica*, *Reginella furcata*, *Dakaria ordinata*, *Microperella umbonata*, *Parasmittina collifera*, *Rhynchozoon tumulosum*, *Lagenipora spinulosa*, *Hippodiplosia insculpta*, *Eurytomella bilabiata*, and *Phidolopora pacifica*.

PART III.—CLIMATE AND TIME ZONES*

Section 1.—Climate

Just as there are great differences in the weather throughout Canada at any given instant, there are also many climates. These climates are similar to those in Europe and Asia extending from the Arctic down to the mid-northern hemispheric latitudes. Because Canada is situated in the northern half of the hemisphere, most of the country loses more heat annually than it receives from the sun. The general atmospheric circulation compensates for this and at the same time produces a general movement of air from west to east. Migrant low pressure areas move across the country in this "westerly zone", producing storms and bad weather. In intervals between storms there prevails the fair weather associated with high pressure areas.

Although the movement of migrant high and low pressure systems within the zone of the westerlies is the most significant climatic control over Canada, the physical geography of North America contributes greatly to the climate. On the West Coast, the western Cordillera limits mild air from the Pacific to a narrow band along the coast, while the prairies to the east of the mountains are dry and have extreme temperatures because they are shielded from the Pacific Ocean and are in the interior of a large land mass. In addition, the prairies are part of a wide north-south corridor open to rapid air flow from either north or south which often brings sudden and drastic weather changes to this interior area. On the other hand, the large water surfaces of Eastern Canada produce a considerable modification to the climate. In southwestern Ontario winters are milder with more snow, and in summer the cooling effect of the lakes is well illustrated by the number of resorts along their shores. On the East Coast, the Atlantic Ocean has considerable effect on the immediate coastal area where temperatures are modified and conditions made more humid when the winds blow inland from the ocean.

The following table gives temperature and precipitation data for typical stations in the various regions of Canada. Temperatures in this table refer to observations taken in a thermometer shelter which has been placed in a representative location with the thermometer bulbs four feet above the surface of the ground. Mean January and July tem-

* Sections 1 and 2 of this part were prepared by the Meteorological Branch of the Department of Transport, Toronto. A comprehensive study on The Climate of Canada, also prepared by the Meteorological Branch, was carried in the 1959 Year Book, pp. 23-51. Supplementing that textual material, detailed tabulations of climatic factors for 45 individual meteorological stations across the country were carried in the 1960 Year Book, pp. 33-77. A reprint is available from the above source giving the complete textual and tabular data. A special article on The Climate of the Canadian Arctic appears in the 1967 Year Book at pp. 55-74, an augmented reprint of which is also available from the Meteorological Branch.

perature data are based on records over the 30-year period from 1931 to 1960 except for far northern stations where the available period of record is shorter. After an average temperature is obtained for each day in January over a 30-year period, the mean January temperature may be arrived at by striking a mean of these 930 daily values. The mean July temperatures may be obtained in a similar manner. The highest and lowest temperatures on record refer to the absolute extremes for the entire period of record at each station. Average dates are shown for the last occurrence in spring of a temperature of 32°F or lower and for the first occurrence in autumn of freezing temperatures at the four-foot level in the thermometer shelter.

The official Canadian rain gauge is a small cylinder in which the rain is caught and then measured to one hundredth of an inch with a simple measuring device. Freshly fallen snow is measured as it lies on the ground and recorded to the tenth of an inch. Total precipitation values as shown in the table are the sum of the total rainfall and one tenth of the total snowfall. For the purposes of this table, a day with precipitation is one on which at least one hundredth of an inch of rain or one tenth of an inch of snow has fallen.

Temperature and Precipitation Data for Typical Stations in the Various Districts

District and Station	TEMPERATURES (Fahrenheit)						PRECIPITATION		
	Mean Jan.	Mean July	Highest on Record	Lowest on Record	Av. Dates of Freezing Temperatures (32°F or Lower)		Total (All Forms) ¹	Snowfall	Av. Number of Days (All Forms)
					Last in Spring	First in Autumn			
							in.	in.	
Newfoundland—									
Island of Newfoundland—									
Belle Isle.....	13.5	49.1	73	—31	June 19	Sept. 24	33.56	92.0	143
Gander.....	20.8	62.3	96	—17	June 1	Oct. 3	40.35	127.1	201
St. Andrew's.....	24.6	59.3	81	—11	June 11	Sept. 28	42.66	64.6	171
St. John's.....	24.3	59.7	93	—21	June 2	Oct. 10	60.98	149.7	207
Labrador—									
Cartwright.....	7.5	55.7	97	—36	June 26	Sept. 9	38.15	183.1	179
Goose.....	2.2	61.4	100	—38	June 10	Sept. 14	32.93	157.6	173
Maritime Provinces—									
Prince Edward Island—									
Charlottetown.....	19.6	65.6	98	—23	May 8	Oct. 19	43.49	105.0	166
Nova Scotia—									
Annapolis Royal.....	25.5	65.3	91	—13	May 20	Oct. 6	45.61	75.8	154
Halifax.....	26.0	65.3	99	—21	May 13	Oct. 12	54.39	70.9	156
Sydney.....	24.3	64.9	98	—25	May 29	Oct. 13	51.37	95.5	176
Yarmouth.....	27.7	61.9	86	—12	May 3	Oct. 26	50.00	81.7	158
New Brunswick—									
Chatham.....	14.8	66.7	102	—43	May 21	Sept. 28	41.29	114.2	152
Grand Falls.....	10.6	65.0	98	—46	May 28	Sept. 20	40.50	108.1	104
Moncton.....	17.8	65.6	99	—36	May 23	Sept. 22	40.96	108.6	155
Saint John.....	19.5	63.0	94	—28	May 21	Sept. 29	53.57	97.7	156
Quebec—									
Northern—									
Fort Chimo.....	—11.0	53.3	90	—51	June 27	Aug. 10	16.47	69.5	146
Knob Lake.....	—9.4	55.1	88	—59	June 19	Aug. 25	29.40	134.5	185
Nitchequon.....	—9.1	56.7	90	—57	June 14	Sept. 13	29.64	108.4	193
Port Harrison.....	—13.0	48.0	86	—57	July 5	Aug. 20	15.51	64.5	134
Southern—									
Bagotville.....	3.5	64.2	96	—46	June 1	Sept. 16	37.67	127.0	175
Father Point.....	12.5	59.3	99	—33	May 22	Sept. 26	32.73	110.7	154
Montreal.....	16.3	70.8	97	—29	Apr. 28	Oct. 17	41.19	98.6	167
Quebec.....	11.3	66.7	97	—34	May 11	Oct. 5	41.67	119.8	158
Sept Iles.....	7.1	59.6	90	—46	June 1	Sept. 10	42.39	164.3	142
Sherbrooke.....	15.2	68.2	98	—42	May 18	Sept. 23	39.15	95.0	174

¹ Total rainfall and one tenth of the total snowfall.

Temperature and Precipitation Data for Typical Stations in the Various Districts—continued

District and Station	TEMPERATURES (Fahrenheit)						PRECIPITATION		
	Mean Jan.	Mean July	Highest on Record	Lowest on Record	Av. Dates of Freezing Temperatures (32°F or Lower)		Total (All Forms) ¹	Snowfall	Av. Number of Days (All Forms)
					Last in Spring	First in Autumn			
							in.	in.	
Ontario—									
Northern—									
Kapuskasing.....	-0.1	63.2	101	-53	June 14	Sept. 5	33.78	123.1	184
Port Arthur—									
Fort William.....	7.2	63.5	104	-42	June 4	Sept. 7	29.40	84.6	144
Sioux Lookout.....	-0.4	65.7	103	-51	May 29	Sept. 19	27.59	85.5	167
Trout Lake.....	-11.0	60.7	96	-54	June 16	Sept. 15	23.89	77.0	157
Southern—									
London.....	22.9	69.6	106	-27	May 11	Oct. 9	37.19	72.5	164
Ottawa.....	12.6	69.2	102	-38	May 11	Sept. 29	33.55	86.1	152
Parry Sound.....	16.3	67.5	100	-39	May 15	Oct. 2	39.12	111.7	159
Toronto.....	25.0	71.5	105	-27	May 3	Oct. 15	30.56	54.9	137
Windsor.....	25.5	71.8	101	-15	Apr. 29	Oct. 15	32.61	38.0	137
Prairie Provinces—									
Manitoba—									
Churchill.....	-17.5	53.6	96	-57	June 24	Sept. 11	15.99	69.1	143
The Pas.....	-7.0	64.8	100	-54	May 30	Sept. 21	17.76	54.7	127
Winnipeg.....	0.1	68.3	108	-54	May 29	Sept. 18	20.35	51.3	125
Saskatchewan—									
Regina.....	1.6	66.7	111	-56	May 30	Sept. 15	15.53	43.0	115
Saskatoon.....	1.0	66.6	104	-55	May 27	Sept. 1	13.86	43.2	104
Swift Current.....	8.9	66.9	107	-54	May 30	Sept. 22	15.27	44.4	114
Alberta—									
Beaverlodge.....	7.4	60.2	98	-54	May 30	Sept. 1	17.91	68.1	127
Calgary.....	14.2	62.0	97	-49	May 28	Sept. 15	17.44	58.5	116
Edmonton.....	6.6	63.1	99	-57	May 24	Sept. 16	18.64	53.8	121
Medicine Hat.....	12.1	69.1	108	-51	May 16	Sept. 20	14.29	48.7	93
British Columbia—									
Pacific Coast and Coastal Valleys—									
Estevan Point.....	40.4	56.6	84	7	Apr. 3	Nov. 12	115.39	10.7	201
Langara.....	37.1	54.4	78	6	Apr. 2	Dec. 2	66.39	24.3	252
Prince Rupert.....	35.2	56.2	90	-6	Apr. 19	Nov. 3	94.41	32.7	230
Vancouver.....	37.2	63.8	92	0	Apr. 4	Oct. 27	41.12	17.8	159
Victoria.....	39.4	60.1	95	6	Feb. 28	Dec. 7	27.41	11.5	143
Southern Interior—									
Glacier.....	13.5	57.9	98	-32	June 10	Sept. 8	57.10	37.2	192
Kamloops.....	21.4	69.6	103	-32	May 1	Sept. 26	9.71	32.5	87
Penticton.....	27.4	68.4	105	-16	May 9	Sept. 28	12.08	25.5	101
Princeton.....	17.9	63.4	107	-49	June 5	Sept. 13	14.17	58.5	117
Central Interior—									
Barkerville.....	15.4	54.4	96	-52	June 25	Aug. 16	45.25	226.1	185
McBride.....	16.0	60.5	100	-50	June 18	Aug. 23	21.31	84.3	127
Prince George.....	11.6	58.9	94	-58	June 15	Aug. 26	24.67	79.6	162
Smithers.....	14.9	57.5	93	-47	June 22	Aug. 11	20.27	73.3	157
Northern Interior—									
Atlin.....	8.6	53.5	87	-54	June 11	Sept. 4	10.95	43.4	70
Dease Lake.....	-2.3	55.1	93	-60	July 2	Aug. 16	15.25	65.8	144
Fort Nelson.....	-8.4	62.2	98	-61	May 24	Sept. 2	17.13	67.7	125
Fort St. John.....	4.2	61.1	92	-53	May 19	Sept. 5	17.42	76.0	131
Smith River.....	-11.4	57.3	92	-74	July 2	Aug. 11	18.28	79.9	147
Yukon Territory—									
Dawson.....	-17.6	59.8	95	-73	June 4	Aug. 21	12.67	49.9	115
Snag.....	-18.5	57.0	89	-81	June 17	Aug. 7	14.07	53.2	114
Watson Lake.....	-11.5	59.1	93	-74	June 1	Aug. 25	16.98	82.5	149
Whitehorse.....	-0.6	57.5	91	-62	June 10	Aug. 27	10.05	45.6	116

¹ Total rainfall and one tenth of the total snowfall.

Temperature and Precipitation Data for Typical Stations in the Various Districts—concluded

District and Station	TEMPERATURES (Fahrenheit)						PRECIPITATION		
	Mean Jan.	Mean July	Highest on Record	Lowest on Record	Av. Dates of Freezing Temperatures (32°F or Lower)		Total (All Forms) ¹	Snowfall	Av. Number of Days (All Forms)
					Last in Spring	First in Autumn			
							in.	in.	
Northwest Territories—									
Mackenzie Basin—									
Fort Good Hope.....	-22.0	60.5	95	-69	June 14	Aug. 6	10.52	46.3	97
Fort Simpson.....	-15.8	62.0	97	-69	June 4	Aug. 28	12.92	47.9	118
Hay River.....	-12.2	59.8	96	-62	June 11	Sept. 7	12.59	53.3	99
Barrens—									
Baker Lake.....	-27.2	51.3	82	-58	July 2	Aug. 24	8.21	22.9	95
Chesterfield.....	-24.8	47.9	86	-60	June 30	Sept. 4	10.96	46.5	98
Coppermine.....	-19.4	48.7	90	-58	June 28	Aug. 18	9.22	44.3	114
Arctic Archipelago—									
Clyde.....	-16.6	40.6	71	-50	July 13	July 17	8.07	57.5	87
Eureka.....	-34.0	42.4	67	-63	June 25	Aug. 10	2.40	14.0	48
Frobisher Bay.....	-15.7	46.2	76	-49	July 2	Aug. 22	14.99	80.5	129
Mould Bay.....	-28.4	38.8	60	-63	July 15	July 18	3.17	18.7	74
Resolute.....	-26.3	40.3	65	-61	July 9	July 25	5.36	28.8	95

¹ Total rainfall and one tenth of the total snowfall.**Section 2.—Meteorological Observing Stations**

In January 1966, official meteorological observations were taken and recorded at 2,313 weather reporting stations in Canada. There are several different classes of stations ranging from the first-order reporting stations at airports where hourly observations of all aspects of the weather are recorded, to the co-operative observing stations where a volunteer observer makes daily observations of rainfall, snowfall and temperature or precipitation only. While there are vast areas of the country where the weather stations are several hundred miles apart, most of the settled parts of the country are represented by first-order hourly reporting stations every 100 miles or so, and by co-operative climatological observing stations at least every 25 miles.

At most of the 274 first-order synoptic stations complete weather observations are made every six hours and at a large percentage of them only slightly less complete observations for aviation forecasts are made every hour. These weather data, including information on temperature, precipitation, pressure, wind, humidity, cloud and visibility, are sent first by radio and teletype to the different weather offices across the Continent to be used for weather forecasting purposes, and then at each month-end the manuscript reports are sent by mail to Meteorological Branch Headquarters for use in compiling climatic statistics. At 101 of these observing stations, personnel of the Telecommunications Branch of the Department of Transport take weather observations as part of their scheduled duties, and 28 stations are operated in a similar manner by the different Armed Services; 93 stations are operated by Meteorological Branch personnel and the remainder are operated under contract, or by co-operative arrangement with various transportation and communications companies.

Twice daily, at 34 locations throughout the country, complete upper air observations are made from the surface to altitudes upwards to 100,000 feet. Pressure, temperature and humidity measurements are determined by radiosonde instruments carried aloft by balloons and the information reported by radio to the ground receiving stations; winds are

determined by observing the drift of the balloon by means of radar or radio direction finding ground equipment. There are also 30 locations where the winds in the lower layers of the atmosphere are determined by observing free balloon drift by means of a theodolite or by radar. As in the case of the first-order synoptic reporting stations, these upper air weather observations are made available immediately to forecast offices for weather forecasting purposes, and the manuscript reports are collected at Meteorological Branch Headquarters for compilation of climatic statistics.

There are 1,366 weather observing stations in Canada classified as climatological stations where the observers record temperature extremes and precipitation once or twice daily and send in monthly data sheets. Most of the observers serve on a voluntary basis and willingly spend several hours a month on their hobby. In addition, many governmental and industrial organizations such as agricultural experimental farms and power companies have incorporated brief climatological duties into the general work of some of their employees. These climatological stations have contributed much useful information on temperature and precipitation for publication by the Meteorological Branch.

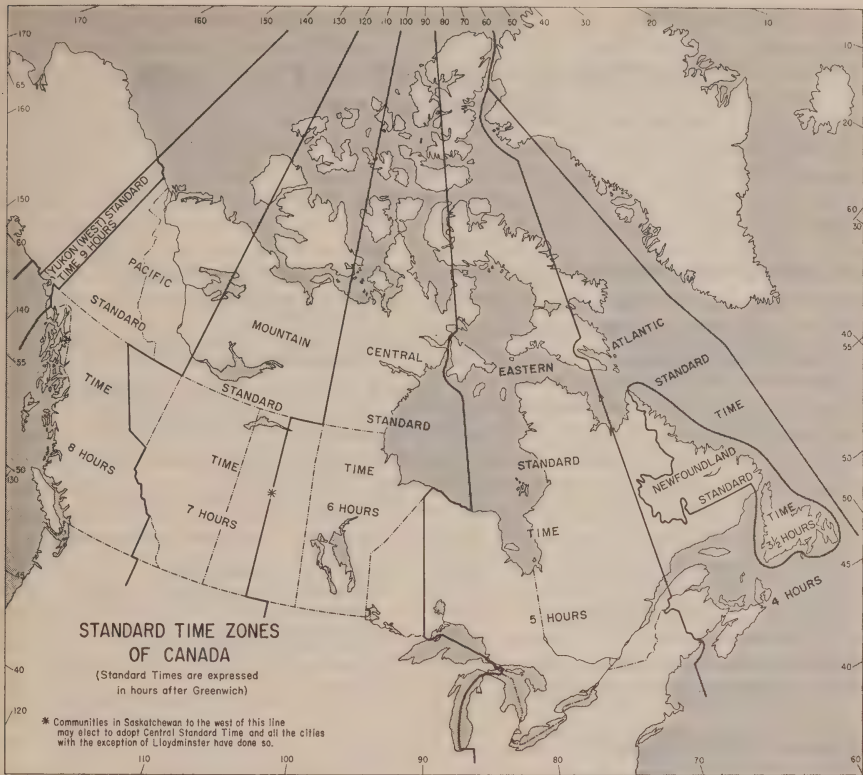
There are 574 stations classified as precipitation stations where rainfall and snowfall only are observed and recorded. Since precipitation varies more rapidly than temperature over short distances, a dense network of these stations is required, especially in large urban areas. Finally, there are 99 miscellaneous stations where observations of wind, sunshine and temperature are taken for special purposes. In all, the number of weather stations in Canada has been growing at an average rate of more than 100 a year for the past decade and thus a steadily increasing climatic intelligence is assisting Canadians in all economic pursuits.

Section 3.—Standard Time and Time Zones

Standard Time, which was adopted at a World Conference held at Washington, D.C., in 1884, sets the number of time zones in the world at 24, each zone ideally extending over one twenty-fourth of the surface of the earth and including all the territory between two meridians 15° of longitude apart. In practice, the zone boundaries are quite irregular for geographic and political reasons. Universal Time (UT) is the time of the zone centred on the zero meridian through Greenwich. Each of the other time zones is a definite number of hours ahead of or behind UT to a total of 12 hours, at which limit the international date-line runs roughly north-south through the mid-Pacific.

Canada has seven time zones, the most easterly being Newfoundland Standard Time, three hours and thirty minutes behind UT, and the most westerly Yukon (west) Standard Time, nine hours behind UT. In between, from east to west, the remaining zones are called Atlantic, Eastern, Central, Mountain, Pacific and Yukon (east). Yukon (east) and Pacific Standard in effect constitute a single zone.

Legal Authority for the Time Zones.—Time in Canada has been considered a matter of provincial rather than federal jurisdiction. Each of the provinces and the Northwest Territories has enacted laws governing the standard time to be used within its boundaries. These laws determine the location of the time zone boundaries. Lines of communication, however, have caused communities near the boundary of a time zone to adopt the time of the adjacent zone, and in most cases these changes are acknowledged by amendments to provincial legislation. During the two World Wars, there were federal enactments concerning time but these were of temporary duration. In 1941 the Dominion Observatory time was declared the time to be used for official purposes in Canada.



Daylight Saving Time.—Although Daylight Saving Time had been urged in many quarters before World War I, its first use in Canada came as a federal war measure in 1918. Today most of the provinces have legislation controlling the provincial or municipal adoption (or rejection) of Daylight Saving. In the remaining provinces it is necessary to refer to the individual municipalities to determine whether, and between what dates, Daylight Saving is adopted in any particular year.

CHAPTER II.—CONSTITUTION AND GOVERNMENT*

CONSPECTUS

	PAGE		PAGE
Part I.—Constitution of Canada.....	66	SECTION 3. CROWN CORPORATIONS.....	140
Part II.—Machinery of Government.....	71	SECTION 4. ACTS ADMINISTERED BY FEDERAL DEPARTMENTS.....	14
SECTION 1. THE FEDERAL GOVERNMENT...	71	Part IV.—Federal and Provincial Government Employment.....	154
Subsection 1. The Executive.....	71	Part V.—Canada's External Relations....	164
Subsection 2. The Legislature.....	78	SECTION 1. CANADA'S INTERNATIONAL STATUS.....	164
Subsection 3. The Judiciary.....	94	SECTION 2. DIPLOMATIC REPRESENTATION AS AT JUNE 30, 1967.....	166
SECTION 2. PROVINCIAL AND TERRITORIAL GOVERNMENTS.....	96	SECTION 3. INTERNATIONAL ACTIVITIES, 1966-67.....	172
Subsection 1. Newfoundland.....	97	Subsection 1. Canada and Commonwealth Relations.....	172
Subsection 2. Prince Edward Island.....	98	Subsection 2. Francophonie.....	173
Subsection 3. Nova Scotia.....	100	Subsection 3. Canada and the United Nations.....	174
Subsection 4. New Brunswick.....	101	Subsection 4. Canada and the North Atlantic Treaty Organization.....	179
Subsection 5. Quebec.....	102	Subsection 5. Canada and the United States.....	181
Subsection 6. Ontario.....	104	Subsection 6. Canada and Latin America.....	181
Subsection 7. Manitoba.....	105	Subsection 7. Canada and Europe, the Middle East, Africa and the Far East.....	182
Subsection 8. Saskatchewan.....	106	Subsection 8. Organization for Economic Co-operation and Development.....	184
Subsection 9. Alberta.....	107	Subsection 9. Canadian External Aid Programs.....	184
Subsection 10. British Columbia.....	108		
Subsection 11. Yukon Territory and Northwest Territories.....	110		
SECTION 3. LOCAL GOVERNMENT.....	116		
SECTION 4. FEDERAL AND PROVINCIAL ROYAL COMMISSIONS.....	121		
Part III.—Administrative Functions of the Federal Government.....	123		
SECTION 1. FINANCIAL ADMINISTRATION...	123		
SECTION 2. DEPARTMENTS, BOARDS, COMMISSIONS, ETC.....	127		

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

PART I.—CONSTITUTION OF CANADA

The Canadian federal state, which today comprises ten provinces and two vast northern territories, had its beginning one hundred years ago in the enactment (Mar. 29, 1867) by the British Parliament of the British North America Act, 1867. Fashioned largely out of the Seventy-two Resolutions drafted at Quebec (1864) by the Fathers of Confederation, the British North America Act, 1867 provided for the federal union of the three British North American provinces (Canada, New Brunswick and Nova Scotia) in one Dominion under the name of "Canada".

* Except where otherwise indicated, the federal data in this Chapter have been brought up to the date of Sept. 30, 1967, the provincial data to June 30, 1967, and the Territorial data to Sept. 30, 1967. Certain changes occurring between those dates and the date of going to press will be found in an Appendix to this volume. Also, official appointments made up to the date of going to press will be found in Chapter XXVII (see Index).

Although the new nation that came into being on July 1, 1867 was a federation comprised of four provinces, namely, Ontario, Quebec, New Brunswick and Nova Scotia, Sect. 146 of the Act provided for the admission into the Union of the Crown colonies of Prince Edward Island and Newfoundland on the Atlantic and the united (1866) island and mainland colony of British Columbia on the Pacific, and also of the vast expanse of Hudson's Bay Company territory in the North West known as "Rupert's Land and the North-Western Territory". Following the negotiation of an agreement on terms comprising the Company's surrender of its authority and territories to the Crown (which was to transfer them at once to Canada) and the retention of one twentieth of the land of the fertile belt (the southern territories) with designated blocks of land around its trading posts and a Canadian cash payment of £300,000, the new nation of Canada was ready to expand westward with considerable momentum across the Continent to the Pacific.

The acquisition by Canada of Rupert's Land and the North-Western Territory enabled the Red River settlement, after a few months of disturbance, to receive limited provincial establishment under the name of "Manitoba" in 1870; provided the Federal Government with the public lands needed to help subsidize a transcontinental railway linking the Pacific with the Canadian East, thereby fulfilling the pledge to British Columbia to begin the Canadian Pacific Railway within two years and to complete it within ten years of the date of union, July 20, 1871; and laid, through the provision of millions of acres of public lands, the land and economic bases for the Federal Government's adoption of a free-homestead policy for the Canadian prairies that, in conjunction with the completion of the Canadian Pacific Railway and the launching of other railway lines, brought wave after wave of settlers into the Northwest Territories in such numbers as to justify the creation of the two Provinces of Saskatchewan and Alberta in 1905 out of the portion of the Northwest Territories south of the 60th parallel of north latitude. Although provision for their entry was included in the British North America Act, 1867, the Province of Prince Edward Island held back from the Union until 1873 and Newfoundland became Canada's tenth province on Mar. 31, 1949.

The Constitution of Canada, which had a corporate beginning in 1867, combines, in a set of rules determining the creation and operation of the machinery or institutions of government, the Cabinet system of responsible government (based on an inheritance from Britain) with a Canadian adaptation of federalism (as then practised in the United States for eighty years). A written document, the British North America Act of 1867, contains a substantial portion of Canada's Constitution and this Act, with its various amendments,* is popularly held to be the Canadian Constitution. There is, however, another and perhaps more important part which appears, through the evolutionary processes of historical growth, in various guises including well-established usages and conventions found in the unwritten provisions of the Constitution.

Thus, the British North America Act is not a comprehensive constitutional document presenting an exhaustive statement of fundamental laws and rules by which Canada is governed. The Constitution of Canada in its broadest sense includes other British statutes (such as the Statute of Westminster, 1931) and Orders in Council (notably those admitting various provinces and territories to the federation), Statutes of the Parliament of Canada relating to such matters as the succession to the Throne, the Royal Style and Titles, the Governor General, the Senate, the House of Commons, the creation of courts, the establishment of government departments, the franchise, elections, and also statutes of provincial legislatures relating to provincial constitutional institutions and government matters. Federal and provincial Orders in Council, legally authorized by their respective

* See *A Consolidation of The British North America Acts 1867 to 1960*, consolidated by Elmer A. Driedger as of Jan. 1, 1964. Queen's Printer, Ottawa. 75 cents (Catalogue No. YX1-164). A further amendment was made in 1964 respecting old age pensions (see p. 79).

statutes, provide further constitutional material as do the decisions of the courts which interpret the British North America Act and all ordinary statutes and indeed possess the power to set aside any laws which they hold to be *ultra vires* or beyond the jurisdiction of the enacting legislative bodies, whether federal or provincial. Moreover, the Canadian Constitution comprises, in addition to the statutory law and its judicial interpretation, substantial sections of the common law, unwritten constitutional usages and conventions and principles of democratic government which were transplanted from Britain over two hundred years ago and since then have been thriving and evolving in the Canadian environment. For example, the Cabinet system of responsible government (see pp. 73-74) and its functioning through close identification of the executive and the legislative powers (that is, of the Cabinet and the House of Commons) is not mentioned in the British North America Act but derives from an unwritten convention of the Constitution.

Although the essential principles of Cabinet government are based in custom or constitutional usage, the federal structure of Canadian government rests on the explicit written provisions of the British North America Act. Apart from the creation of the federal union, the dominant feature of the Act and indeed of the Canadian federation was the distribution of powers between the central or federal government on the one hand and the component provincial governments on the other. In brief, the primary purpose was to grant to the Parliament of Canada legislative jurisdiction over all subjects of general or common interest, while giving to the provincial legislatures jurisdiction over all matters of local or particular interest (see p. 79 and p. 97).

Unlike the written constitutions of many nations, the British North America Act lacks comprehensive "bill of rights" clauses, although it does accord specific constitutional protection to the use of the English and French languages (clause 133) and special safeguards with respect to sectarian or denominational schools. Such vital rights as freedom of speech, freedom of assembly, freedom of religion, freedom of the press, trial by jury and similar liberties enjoyed by the individual citizen are not recorded in the British North America Act but rather depend on the statute law and the common law inheritance. Security of these rights was confirmed by the passage of a Canadian Bill of Rights—An Act for the Recognition and Protection of Human Rights and Fundamental Freedoms (SC 1960, c. 44), assented to Aug. 10, 1960. (See also Chapter IX, Sect. 1 on Canadian Criminal Law and Procedure.)

Treaty-Making Powers.*—The Federal Government has exclusive responsibility for the conduct of external affairs as a matter of national policy affecting all Canadians. The policy of the Federal Government in discharging this responsibility is to seek to promote the interest of the entire country and of all Canadians of the various provinces within the over-all framework of the national policy.

In respect of matters of specific concern to the provinces of Canada, it is the policy of the Canadian Government, in a spirit of co-operative federalism, to do its utmost to assist the provinces in achieving the particular aspirations and goals that they wish to attain. The attitude of the Federal Government in this respect was illustrated by the "entente" signed by representatives of Quebec and France in the field of education in February 1965. The Quebec and federal authorities co-operated actively in a procedure

* Extracted from "The Provinces and Treaty-Making Powers", Appendix to *Votes and Proceedings of the House of Commons of Canada*, No. 8. Apr. 26, 1965.

that enabled the Province of Quebec, within the framework of the Constitution and the national policy, to participate in international arrangements in a field of particular interest to that province.

Thus, under existing procedures, the position is that, once it is determined that what a province wishes to achieve through agreements in the field of education or in other fields of provincial jurisdiction falls within the framework of Canadian foreign policy, the provinces may discuss detailed arrangements directly with the competent authorities of the country concerned. When a formal international agreement is to be concluded, however, the federal powers relating to the signature of treaties and the conduct of over-all foreign policy must necessarily come into operation.

The approach of the Canadian Government to the question of Canadian representation in international organizations of a social, cultural or humanitarian character reflects the same constructive spirit. It recognizes the desirability of ensuring that the Canadian representation in such organizations and conferences reflects in a fair and balanced way provincial and other interests in these subjects.

Amendment of the Constitution.—No provision was made in the British North America Act of 1867 for amendment thereof by any legislative authority in Canada but both the Parliament of Canada and the provincial legislatures were given legislative jurisdiction with respect to some matters relating to government. Thus, for example, the Parliament of Canada was given jurisdiction with respect to the establishment of electoral districts and election laws and the privileges and immunities of Members of the House of Commons and the Senate, and each provincial legislature was empowered to amend the constitution of the province except as regards the office of Lieutenant-Governor. By an amendment to the British North America Act passed in 1949, the authority of the Parliament of Canada to legislate with respect to constitutional matters was considerably enlarged and it may now amend the Constitution of Canada except as regards the legislative authority of the provinces, the rights and privileges of provincial legislatures or governments, schools, the use of the English or the French language, and the duration of the House of Commons other than in time of real or apprehended war, invasion or insurrection.

The question of devising amendment procedure within Canada which satisfies the need to safeguard or entrench such basic provincial and minority rights as are noted immediately above and yet possesses sufficient flexibility to ensure that the Constitution can be altered to meet changing circumstances is one that still engages the attention of the federal and provincial governments and legislatures. An outline of the constitutional background to the problem, an annotated list of the fourteen occasions since 1867 when amendments to the British North America Act were made by the United Kingdom Parliament, a concise review of the prolonged search for a satisfactory amending procedure in Canada—the subject of repeated consideration in the Parliament of Canada and in a series of formal federal-provincial conferences and meetings in the years 1927, 1935-36, 1950, 1960-61 and 1964—and, more specifically, the text of a draft Bill “to provide for the amendment in Canada of the Constitution of Canada” (accompanied by explanatory notes relating thereto) which embodies the amending procedure or formula unanimously recommended by the Conference of Attorneys-General and unanimously accepted by the Conference of the Prime Minister and the Premiers (October 1964) are all made available in an official publication entitled *The Amendment of the Constitution of Canada*, authorized by the Minister of Justice, February 1965.*

* Available from the Queen's Printer, Ottawa. \$2 (Cat. No. J2-1665).

1.—Provinces and Territories of Canada, Dates of Admission to Confederation, Legislative Processes by which Admission was Effected, Present Area and Seat of Government

Province, Territory or District	Date of Admission or Creation	Legislative Process	Present Area (sq. miles)	Seat of Provincial or Territorial Government
Ontario ¹	July 1, 1867	Act of Imperial Parliament—The British North America Act, 1867 (Br. Stat. 1867, c. 3) and Imperial Order in Council, May 22, 1867.	412,582	Toronto
Quebec ²	July 1, 1867		594,860	Quebec
Nova Scotia.....	July 1, 1867		21,425	Halifax
New Brunswick.....	July 1, 1867		28,354	Fredericton
Manitoba ³	July 15, 1870	Manitoba Act, 1870 (SC 1870, c. 3) and Imperial Order in Council, June 23, 1870.	251,000	Winnipeg
British Columbia.....	July 20, 1871	Imperial Order in Council, May 16, 1871..	366,255	Victoria
Prince Edward Island....	July 1, 1873	Imperial Order in Council, June 26, 1873..	2,184	Charlottetown
Saskatchewan ⁴	Sept. 1, 1905	Saskatchewan Act, 1905 (SC 1905, c. 42)..	251,700	Regina
Alberta ⁴	Sept. 1, 1905	Alberta Act, 1905 (SC 1905, c. 3).....	255,285	Edmonton
Newfoundland.....	Mar. 31, 1949	The British North America Act, 1949 (Br. Stat. 1949, c. 22).....	156,185	St. John's
Northwest Territories ⁵ ...	July 15, 1870	Act of Imperial Parliament—Rupert's Land Act, 1868 (Br. Stat. 1868, c. 105) and Imperial Order in Council, June 23, 1870.....	1,304,903	Yellowknife
Mackenzie ⁶	Jan. 1, 1920	Order in Council, Mar. 16, 1918.....	527,490	
Keewatin ⁶	Jan. 1, 1920		228,160	
Franklin ⁶	Jan. 1, 1920		549,253	
Yukon Territory ⁷	June 13, 1898	Yukon Territory Act, 1898 (SC 1898, c. 6)	207,076	Whitehorse
Canada.....			3,851,809	

¹ The area of Ontario was extended by the Ontario Boundaries Extension Act, 1912 (SC 1912, c. 40).

² Extended by Quebec Boundaries Extension Act, 1912 (SC 1912, c. 45) and diminished Mar. 1, 1927 in consequence of the Award of the Judicial Committee of the British Privy Council whereby approximately 112,000 sq. miles of territory (formerly considered as part of Quebec) was assigned to Newfoundland.

³ Extended by the Extension of Boundaries Act of Manitoba, 1881 and the Manitoba Boundaries Extension Act, 1912 (SC 1912, c. 32).

⁴ Saskatchewan and Alberta created as provinces in 1905 from the area formerly comprised in the provisional districts of Assiniboia, Athabaska, Alberta and Saskatchewan established May 17, 1882 by minute of Canadian Privy Council concurred in by Dominion Parliament and Order in Council, Oct. 2, 1895.

⁵ By an Imperial Order in Council passed on June 23, 1870 pursuant to the Rupert's Land Act, 1868 (Br. Stat. 1868, c. 105), the former territories of the Hudson's Bay Company known as Rupert's Land and the North-Western Territory were transferred to Canada effective July 15, 1870. These territories were designated as the North-West Territories by the Act of SC 1869, c. 3 and as the Northwest Territories by RSC 1906, c. 62. By Imperial Order in Council of July 31, 1880 (effective Sept. 1, 1880), all British territories and possessions in North America not already included within Canada and all islands adjacent thereto (with the exception of the Colony of Newfoundland and its dependencies) were annexed to Canada and these additional territories were formally included in the North-West Territories by SC 1905, c. 27. The Province of Manitoba was formed out of a portion of the territories by the Manitoba Act, 1870 (SC 1870, c. 3) and a further portion was added to Manitoba in 1881 by SC 1881, c. 14. The Provinces of Alberta and Saskatchewan were formed out of portions of the territories in 1905 and in 1912 other portions were added to Manitoba, Ontario and Quebec.

⁶ By SC 1876, c. 21, a separate district to be known as the District of Keewatin was established and provision was made for the local government thereof. The Act was expressed to come into force by proclamation. It provided that portions of the District might be re-annexed to the North-West Territories by proclamation; in 1886 a portion of the District of Keewatin was re-annexed and in 1905 the entire Keewatin District was re-annexed. The Act of 1876 was never proclaimed. By Order in Council of May 8, 1882 the provisional districts of Assiniboia, Saskatchewan, Alberta and Athabaska were created for the convenience of settlers and for postal purposes. By Order in Council of Oct. 2, 1895 the further provisional districts of Ungava, Franklin, Mackenzie and Yukon were created. The boundaries of these provisional districts were re-defined by Order in Council of Dec. 18, 1897. Subsequently the Yukon Territory was formed, the Provinces of Alberta and Saskatchewan were created and other portions of the territories were annexed to Quebec, Ontario and Manitoba. By Order in Council dated Mar. 16, 1918 (effective Jan. 1, 1920) the remaining portions of the Northwest Territories were divided into three provisional districts known as Mackenzie, Keewatin and Franklin.

⁷ The provisional district of Yukon established in 1895 was created a judicial district of the North-West Territories by proclamation issued pursuant to Sect. 51 of the North-West Territories Act (RSC 1886, c. 50) on Aug. 16, 1897 and, by the Yukon Territory Act (SC 1898, c. 6), was declared to be a separate Territory.

PART II.—MACHINERY OF GOVERNMENT

Section 1.—The Federal Government

Canadian governmental machinery or institutions function through the application of the British North America Act and its amendments and those other constitutional principles and developments—both “written” and “unwritten”—that have evolved from the combination of British law and traditions with Quebec’s adherence to the French language and habits of mind, all within a New World transcontinental environment. They are classified into three branches—the Executive, the Legislature and the Judiciary—and exist for each of the three levels of government in Canada—federal, provincial and local—functioning within their respective jurisdictions as specified respectively by the provisions of the British North America Act and by their statutes of origin.

Despite this *division* of the Government of Canada into three separate branches, Canada’s system of responsible government was long ago evolved from the British practice of the *union* of the executive and legislative branches which is the antithesis of the United States system embodying the opposing principle of the division or *separation* of executive, legislative and judicial powers or authorities from one another. As recounted under the heading of The Cabinet (pp. 73-74), there is a close identification of the Canadian legislative and executive branches of government, with final direction and authority emanating from the former. The Prime Minister and his Cabinet, which formulates and carries out all executive policy, have seats in Parliament and are responsible at all times to the House of Commons and it is here that the *principle of the union* of powers finds its significant expression. On the other hand, the guarantee of the independence of the judiciary, whose superior court judges are appointed by the Governor General (in actual fact by the Prime Minister), is ensured in the constitutional provision that they shall hold office during good behaviour and can be removed by the Governor General only after a joint address of both Houses of Parliament; in this guarantee is found a limited acceptance of the principle of separation of powers, for judges cannot be removed because their decisions happen to be disliked by the Cabinet, by Parliament, or by the people; they can conscientiously perform their judicial functions without fear or intimidation.

In addition to the political institutions embraced by the executive and legislative branches, the machinery of the government at the federal level includes the non-political public service consisting of employees of the state organized in 24 departments of government, some two dozen special boards and commissions, and about 45 Crown corporations or other agencies engaged in administering various public services under their respective statutes and ultimately accountable, through a Minister, to Parliament. Part III of this Chapter recounts briefly the administrative functions of the Federal Government under four Sections, the first three describing the financial administration of the Government of Canada, the functions of each department, board, commission, and of each Crown corporation (whether classified as departmental, agency or proprietary under the Financial Administration Act) and the fourth listing the principal Acts of Parliament grouped according to the department charged with the administration thereof.

Current government organization and the delineation of the respective policies and administrative functions of the Ministers and their Departments are outlined at pp. 127-139 and presented visually in the accompanying government organization chart.

Subsection 1.—The Executive

The Crown.—The British North America Act of 1867 (Sect. 9) provides that “the Executive Government and authority of and over Canada is . . . vested in the Queen”. The functions of the Crown, which are substantially the same as those of The Queen in

relation to the British Government, are discharged in Canada by the Governor General in accordance with established principles of responsible government.

The Queen.—The personal participation of The Queen in the functions of the Crown in Canada has been limited to such occasions as the granting of honours and awards, approval of changes in the Table of Precedence, institution of new military awards, or the periodic appointment of a Governor General. On the occasion of a royal visit, The Queen may participate in those ceremonies that otherwise are carried out in her name, such as the opening and dissolution of Parliament, the assent to Bills and the granting of a general amnesty.

Apart from her constitutional position in relation to the various governments of the Commonwealth countries, The Queen is Head of the Commonwealth and symbolizes the association of the member countries. Until 1953 the title of The Queen was the same throughout the Commonwealth. Constitutional developments put the title somewhat out of accord with the facts of the position, and in December 1952 it was decided by the Prime Ministers of the Commonwealth countries meeting at London, England, that new forms of title for each country should be devised. The title for Canada was approved by Parliament and established by a Royal Proclamation on May 28, 1953. The title of The Queen, as far as Canada is concerned, now is:—

“Elizabeth the Second, by the Grace of God of the United Kingdom, Canada and Her other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith”.

1.—Sovereigns of Canada since Confederation, 1867

Name	Dynasty	Year of Birth	Date of Accession
Victoria.....	House of Hanover.....	1819	June 20, 1837
Edward VII.....	House of Saxe-Coburg and Gotha.....	1841	Jan. 22, 1901
George V.....	House of Windsor.....	1865	May 6, 1910
Edward VIII.....	House of Windsor.....	1894	Jan. 20, 1936
George VI.....	House of Windsor.....	1895	Dec. 11, 1936
Elizabeth II.....	House of Windsor.....	1926	Feb. 6, 1952

The Governor General.—The Governor General, appointed by The Queen as her personal representative in Canada on the advice of the Prime Minister of Canada, traditionally serves for a term of five years. He exercises the executive authority of The Queen in relation to the Government of Canada under Letters Patent issued under the Great Seal of Canada (revised and re-issued, effective Oct. 1, 1947) and the provisions of the British North America Acts, 1867 to 1964. Acting under the recommendations of his responsible Ministers, in The Queen's name, he summons, prorogues and dissolves Parliament, assents to Bills, and exercises other executive functions.

The Governor General's annual salary and allowances provided by the Parliament of Canada are \$48,666 and \$72,000, respectively. Office expenses and certain other items of expenditure are provided for in the estimates for the Office of the Secretary to the Governor General.

The present Governor General is styled His Excellency The Right Honourable Roland Michener, C.C.

2.—Governors General of Canada since Confederation, 1867

Name	Date of Appointment	Date of Assumption of Office
THE VISCOUNT MONCK OF BALLYTRAMMON.....	June 1, 1867	July 1, 1867
THE BARON LISGAR OF LISGAR AND BAILIEBOROUGH.....	Dec. 29, 1868	Feb. 2, 1869
THE EARL OF DUFFERIN.....	May 22, 1872	June 25, 1872
THE MARQUIS OF LORNE.....	Oct. 5, 1878	Nov. 25, 1878
THE MARQUIS OF LANSDOWNE.....	Aug. 18, 1883	Oct. 23, 1883
THE BARON STANLEY OF PRESTON.....	May 1, 1888	June 11, 1888
THE EARL OF ABERDEEN.....	May 22, 1893	Sept. 18, 1893
THE EARL OF MINTO.....	July 30, 1898	Nov. 12, 1898
THE EARL GREY.....	Sept. 26, 1904	Dec. 10, 1904
FIELD MARSHAL H. R. H. THE DUKE OF CONNAUGHT.....	Mar. 21, 1911	Oct. 13, 1911
THE DUKE OF DEVONSHIRE.....	Aug. 19, 1916	Nov. 11, 1916
GENERAL THE BARON BYNG OF VIMY.....	Aug. 2, 1921	Aug. 11, 1921
THE VISCOUNT WILLINGDON OF RATTON.....	Aug. 5, 1926	Oct. 2, 1926
THE EARL OF BESSBOROUGH.....	Feb. 9, 1931	Apr. 4, 1931
THE BARON TWEEDSMUIR OF ELSFIELD.....	Aug. 10, 1935	Nov. 2, 1935
MAJOR GENERAL THE EARL OF ATHLONE.....	Apr. 3, 1940	June 21, 1940
FIELD MARSHAL THE VISCOUNT ALEXANDER OF TUNIS.....	Mar. 21, 1946	Apr. 12, 1946
THE RIGHT HONOURABLE VINCENT MASSEY.....	Jan. 24, 1952	Feb. 28, 1952
GENERAL THE RIGHT HONOURABLE GEORGES P. VANIER.....	Aug. 1, 1959	Sept. 15, 1959
THE RIGHT HONOURABLE ROLAND MICHENER.....	Mar. 29, 1967	Apr. 17, 1967

The Cabinet.—The Cabinet is a committee of Ministers chosen by the Prime Minister (the leader of the political party forming the Government of the Day) generally from Members of Parliament. By convention, all members of the Cabinet either have seats in Parliament or secure seats within a short time and, again by convention, all Ministers in charge of departments of government are generally Members of the House of Commons although there is nothing in the Constitution to prevent a Minister with Portfolio being a Senator.* However, they generally prefer to have seats in the House of Commons where all crucial legislation, by convention, is introduced and where they can offer explanations necessary to secure passage of their Estimates or legislation with which they are deeply concerned. Ministers without Portfolio (without a department to administer)† can be members of either the House of Commons or the Senate. Frequently the Cabinet contains one Minister without Portfolio—usually the Leader of the Government in the Senate—and perhaps one or two others chosen for a variety of reasons such as the desirability of including certain provincial or sectional representation that might otherwise be lacking in the Ministry.

Cabinet members are selected by the Prime Minister in such manner as to ensure, as far as possible, representation of the several geographical and political regions of the country and its principal ethnic, religious and social interests. Each Cabinet Minister generally assumes charge of one of the departments of government, although a Minister may hold more than one portfolio at the same time or he may hold one or more portfolios and one or more acting portfolios, or a Minister without Portfolio may hold one or more acting portfolios. In his acting capacity, the Minister exercises the same authority as if he were the Minister of the department.

The position of Prime Minister, the keystone of the Cabinet, is one of exceptional authority. He alone makes recommendations on the dissolution and convocation of Parliament, appointment of Privy Councillors, Cabinet Ministers, Lieutenant-Governors, Chief Justices, Senators, Speakers of the Senate and House of Commons, and Deputy Heads of departments. The Cabinet, under his leadership, directs the business of the Commons, initiates nearly all public Bills placed before Parliament, and has complete

* Senator the Hon. Gideon Decker Robertson held the portfolio of Minister of Labour for the periods Nov. 7, 1918 to Dec. 29, 1921 and Aug. 7, 1930 to Feb. 2, 1932; Senator the Hon. Malcolm Wallace McCutcheon served as Minister of Trade and Commerce from Feb. 12 to Apr. 22, 1963.

† Ministers without Portfolio are at present referred to as Members of the Administration.

responsibility for the initiation of taxes and the recommendation of expenditures. Following established precedent or convention, it is always responsible to the Commons. When the Cabinet (the Government) loses the confidence of the House, it must either resign or request a dissolution from the Governor General. If it resigns, the Governor General may call on the Leader of the Opposition in the Commons to form a new Government. Alternatively, if a Government that has lost the confidence of the House is granted a dissolution and is defeated in the ensuing general election, then, should no clear majority be indicated, the Government may decide (1) to remain in office and seek a vote of confidence in the House when it meets or (2) to resign immediately with the consequent result that the Governor General will ask the leader of the party with the highest number of members returned to form a new Government. These alternatives may also eventuate as a result of a general election subsequent to the normal dissolution of Parliament at or near the close of its statutory life.

The primary responsibility of the Governor General in either of the above circumstances is to provide the nation with a Cabinet or Ministry capable of conducting Her Majesty's Government with the support of the House of Commons.

The Prime Ministers since Confederation are listed in Table 3 and the members of the Ministry as at Sept. 30, 1967 in Table 4. Sessional and other allowances received by Cabinet Ministers are given at pp. 88-89.

3.—Prime Ministers since Confederation, 1867

Ministry	Name	Length of Administration
1	Rt. Hon. Sir JOHN ALEXANDER MACDONALD.....	July 1, 1867 — Nov. 5, 1873
2	Hon. ALEXANDER MACKENZIE.....	Nov. 7, 1873 — Oct. 16, 1878
3	Rt. Hon. Sir JOHN ALEXANDER MACDONALD.....	Oct. 17, 1878 — June 6, 1891
4	Hon. Sir JOHN JOSEPH CALDWELL ABBOTT.....	June 16, 1891 — Nov. 24, 1892
5	Rt. Hon. Sir JOHN SPARROW DAVID THOMPSON.....	Dec. 5, 1892 — Dec. 12, 1894
6	Hon. Sir MACKENZIE BOWELL.....	Dec. 21, 1894 — Apr. 27, 1896
7	Rt. Hon. Sir CHARLES TUPPER.....	May 1, 1896 — July 8, 1896
8	Rt. Hon. Sir WILFRID LAURIER.....	July 11, 1896 — Oct. 6, 1911
9	Rt. Hon. Sir ROBERT LAIRD BORDEN.....	Oct. 10, 1911 — Oct. 12, 1917
10	Rt. Hon. Sir ROBERT LAIRD BORDEN.....	(Conservative Administration) Oct. 12, 1917 — July 10, 1920
11	Rt. Hon. ARTHUR MEIGHEN.....	(Unionist Administration) July 10, 1920 — Dec. 29, 1921
12	Rt. Hon. WILLIAM LYON MACKENZIE KING.....	(Unionist—"National Liberal and Conservative Party") Dec. 29, 1921 — June 28, 1926
13	Rt. Hon. ARTHUR MEIGHEN.....	June 29, 1926 — Sept. 25, 1926
14	Rt. Hon. WILLIAM LYON MACKENZIE KING.....	Sept. 25, 1926 — Aug. 6, 1930
15	Rt. Hon. RICHARD BEDFORD BENNETT.....	Aug. 7, 1930 — Oct. 23, 1935
16	Rt. Hon. WILLIAM LYON MACKENZIE KING.....	Oct. 23, 1935 — Nov. 15, 1948
17	Rt. Hon. LOUIS STEPHEN ST. LAURENT.....	Nov. 15, 1948 — June 21, 1957
18	Rt. Hon. JOHN GEORGE DIFENBAKER.....	June 21, 1957 — Apr. 22, 1963
19	Rt. Hon. LESTER BOWLES PEARSON.....	Apr. 22, 1963 — ...

4.—Members of the Nineteenth Ministry, as at Sept. 30, 1967¹

(According to precedence of Ministers)

NOTE.—A complete list of the members of Federal Ministries from Confederation to 1913 appears in the 1912 Year Book, pp. 422-429. Later Ministries will be found in subsequent editions.

Office	Occupant	Date of First Appointment	Date of Appointment to Present Portfolio
Prime Minister.....	Rt. Hon. LESTER BOWLES PEARSON...	Apr. 22, 1963	Apr. 22, 1963
Secretary of State for External Affairs.....	Hon. PAUL JOSEPH JAMES MARTIN....	Apr. 22, 1963	Apr. 22, 1963
Minister of Trade and Commerce.....	Hon. ROBERT HENRY WINTERS.....	Jan. 4, 1966	Jan. 4, 1966
Minister of Transport.....	Hon. PAUL THEODORE HELLYER.....	Apr. 22, 1963	Sept. 18, 1967
President of the Queen's Privy Council for Canada.....	Hon. WALTER LOCKHART GORDON....	Apr. 22, 1963	Apr. 4, 1967
Minister of Finance and Receiver General of Canada.....	Hon. MITCHELL SHARP.....	Apr. 22, 1963	Apr. 22, 1963
Minister of Public Works.....	Hon. GEORGE JAMES McILRAITH.....	Apr. 22, 1963	Dec. 17, 1965
Minister of Indian Affairs and Northern Development.....	Hon. ARTHUR LAING.....	Apr. 22, 1963	Apr. 22, 1963
Minister of National Health and Welfare..	Hon. ALLAN JOSEPH MACEachEN....	Apr. 22, 1963	Dec. 17, 1965
Minister of Fisheries.....	Hon. HÉDARD ROBICHAUD.....	Apr. 22, 1963	Apr. 22, 1963
Minister of Veterans Affairs.....	Hon. ROGER TEILLET.....	Apr. 22, 1963	Apr. 22, 1963
Secretary of State of Canada.....	Hon. JUDY V. LAMARSH.....	Apr. 22, 1963	Dec. 17, 1965
Minister of Industry and Minister of Defence Production.....	Hon. CHARLES MILLS DRURY.....	Apr. 22, 1963	{ July 25, 1963 Apr. 22, 1963
Minister of Labour.....	Hon. JOHN ROBERT NICHOLSON.....	Apr. 22, 1963	Dec. 17, 1965
Member of the Administration and Leader of the Government in the Senate.....	Hon. JOHN JOSEPH CONNOLLY.....	Feb. 3, 1964	Feb. 3, 1964
Minister of Forestry and Rural Development.....	Hon. MAURICE SAUVÉ.....	Feb. 3, 1964	Feb. 3, 1964
Minister of National Revenue and President of the Treasury Board.....	Hon. EDGAR JOHN BENSON.....	June 29, 1964	June 29, 1964
Minister of National Defence.....	Hon. LÉO-ALPHONSE JOSEPH CADIEUX.	Feb. 15, 1965	Sept. 18, 1967
Solicitor General of Canada.....	Hon. LAWRENCE T. PENNELL.....	Dec. 17, 1965	Dec. 17, 1965
Minister of Energy, Mines and Resources..	Hon. JEAN-LUC PÉPIN.....	Dec. 17, 1965	Dec. 17, 1965
Minister of Manpower and Immigration..	Hon. JEAN MARCHAND.....	Dec. 17, 1965	Dec. 17, 1965
Minister of Agriculture.....	Hon. JOHN JAMES GREENE.....	Dec. 17, 1965	Dec. 17, 1965
Postmaster General.....	Hon. JOSEPH JULIEN JEAN-PIERRE CÔTÉ.....	Dec. 17, 1965	Dec. 17, 1965
Registrar General of Canada.....	Hon. JOHN NAPIER TURNER.....	Dec. 17, 1965	Apr. 4, 1967
Minister of Justice and Attorney General of Canada.....	Hon. PIERRE ELLIOTT TRUDEAU.....	Apr. 4, 1967	Apr. 4, 1967
Member of the Administration.....	Hon. JOSEPH JACQUES JEAN CHRÉTIEN.	Apr. 4, 1967	Apr. 4, 1967
Member of the Administration.....	Hon. CHARLES RONALD MCKAY GRANGER.....	Sept. 25, 1967	Sept. 25, 1967

¹ Changes occurring between Sept. 30, 1967 and the date of going to press will be carried in an Appendix to this volume.

Parliamentary Secretaries.—The Parliamentary Secretaries Act (SC 1959, c. 15), assented to June 4, 1959, provides for the appointment of 16 Parliamentary Secretaries from among the Members of the House of Commons to assist the respective Ministers in such manner as each Minister may direct. The Government thus revived the system of parliamentary assistantships in practice during the World War II and postwar years subsequent to 1943, whereby Cabinet Ministers might receive assistance in the performance of their parliamentary functions and promising Members of the House might secure a degree of apprenticeship for higher public office. Parliamentary Secretaries hold office for 12 months.

At Sept. 30, 1967, the following Parliamentary Secretaries were in office:—

<u>Secretary</u>	<u>Minister</u>
JOHN ROSS MATHESON.....	Prime Minister
BRUCE S. BEER.....	Agriculture
JACK DAVIS.....	Energy, Mines and Resources
DONALD S. MACDONALD.....	Secretary of State for External Affairs
GÉRARD PELLETIER.....	
RICHARD CASHIN.....	Fisheries
STANLEY HAIDASZ.....	Indian Affairs and Northern Development
BYRCE S. MACKASEY.....	Labour
JOHN C. MUNRO.....	Manpower and Immigration
MARGARET RIDEOUT.....	National Health and Welfare
JAMES E. WALKER.....	National Revenue
JOHN B. STEWART.....	Public Works
OVIDE LAFLAMME.....	Registrar General
ALBERT BÉCHARD.....	Secretary of State
JEAN-CHARLES CANTIN.....	Trade and Commerce
JAMES A. BYRNE.....	Transport

The Privy Council.—The British North America Act of 1867 (Sect. 11) provides for "a Council to aid and advise in the Government of Canada, to be styled the Queen's Privy Council for Canada . . .". At present it consists of about 115 members sworn of the Council by the Governor General on the advice of the Prime Minister. Membership in the Privy Council is for life so that Privy Councillors include both former and present Ministers of the Crown as well as a number of persons who have been, from time to time as an honour, sworn as Privy Councillors; these include members of the Royal Family, past and present Commonwealth Prime Ministers, and former Speakers of the Senate and of the House of Commons of Canada. The Council seldom meets as a body and its constitutional responsibilities as adviser to the Crown in respect to Canada are performed exclusively by a Committee; the membership thereof, with a few historical exceptions, is identical to that of the Cabinet of the Day. A clear distinction between the functions of the Committee of the Privy Council and the Cabinet is rarely made and actually the terms "Council" and "Cabinet" are commonly employed as synonyms.

5.—Members of the Queen's Privy Council for Canada According to Seniority Therein, as at Sept. 30, 1967

President of the Privy Council..... Hon. WALTER LOCKHART GORDON
 Clerk of the Privy Council and Secretary to the Cabinet..... R. G. ROBERTSON

NOTE.—In this list the prefix "Rt. Hon." indicates membership in the British Privy Council, except for the Rt. Hon. Roland Michener who is entitled to be so styled as Governor General of Canada.

Member ¹	Date When Sworn In	Member ¹	Date When Sworn In
Hon. THOMAS ALEXANDER CRERAR.....	Oct. 12, 1917	Hon. NOËL DORION.....	Oct. 11, 1960
Hon. HENRY HERBERT STEVENS.....	Sept. 21, 1921	Hon. WALTER DINSDALE.....	Oct. 11, 1960
Hon. EDWARD JAMES McMURRAY.....	Nov. 14, 1923	Hon. GEORGE ERNEST HALPENNY.....	Oct. 11, 1960
Rt. Hon. CHARLES VINCENT MASSEY.....	Sept. 16, 1925	Hon. WALTER MORLEY ASETLINE.....	Dec. 28, 1961
H.R.H. The Duke of Windsor.....	Aug. 2, 1927	Hon. LESLIE MISCAMPBELL FROST.....	Dec. 28, 1961
Hon. DONALD MATHESON SUTHERLAND.....	Aug. 7, 1930	Hon. JACQUES FLYNN.....	Dec. 28, 1961
Hon. THOMAS GEROW MURPHY.....	Aug. 7, 1930	Hon. JOHN BRACKEN.....	May 4, 1962
Hon. WILLIAM EARL ROWE.....	Aug. 30, 1935	Hon. PAUL MARTINEAU.....	Aug. 9, 1962
Hon. CHARLES GAVAN POWER.....	Oct. 23, 1935	Hon. RICHARD ALBERT BELL.....	Aug. 9, 1962
Hon. COLIN WILLIAM GEORGE GIBSON.....	July 8, 1940	Hon. MALCOLM WALLACE MCCUTCHEON.....	Oct. 15, 1962
Hon. JOSEPH THORARINN THORSON.....	June 11, 1941	Rt. Hon. ROLAND MICHENER.....	Feb. 12, 1963
Hon. WILLIAM FERDINAND ALPHONSE TURGEON.....	Oct. 8, 1941	Hon. MARCEL LAMBERT.....	Mar. 18, 1963
Rt. Hon. LOUIS STEPHEN ST. LAURENT.....	Dec. 10, 1941	Hon. THÉOGÈNE RICARD.....	Mar. 18, 1963
Hon. JOSEPH ARTHUR JEAN.....	Apr. 18, 1945	Hon. FRANK CHARLES MCCEE.....	Mar. 18, 1963
Hon. LIONEL CHEVRIER.....	Apr. 18, 1945	Hon. MARTIAL ASSELIN.....	Mar. 18, 1963
Hon. PAUL JOSEPH JAMES MARTIN ²	Apr. 18, 1945	Hon. WALTER LOCKHART GORDON ²	Apr. 22, 1963
Hon. DOUGLAS CHARLES ABBOTT.....	Apr. 18, 1945	Hon. MITCHELL SHARP ²	Apr. 22, 1963
Hon. THOMAS VIEN.....	July 19, 1945	Hon. AZELLUS DENIS.....	Apr. 22, 1963
Hon. MILTON FOWLER GREGG.....	Sept. 2, 1947	Hon. GEORGE JAMES MCILRAITH ²	Apr. 22, 1963
Hon. ROBERT WELLINGTON MAYHEW.....	June 11, 1948	Hon. WILLIAM MOORE BENEDICKSON.....	Apr. 22, 1963
Rt. Hon. LESTER BOWLES PEARSON ³	Sept. 10, 1948	Hon. ARTHUR LAING ²	Apr. 22, 1963
Hon. STUART SINCLAIR GARSON.....	Nov. 15, 1948	Hon. MAURICE LAMONTAGNE.....	Apr. 22, 1963
Hon. ROBERT HENRY WINTERS ²	Nov. 15, 1948	Hon. LUCIEN CARDIN.....	Apr. 22, 1963
Hon. HUGUES LAPOINTE.....	Aug. 25, 1949	Hon. ALLAN JOSEPH MACÉACHEN ²	Apr. 22, 1963
Hon. GABRIEL ÉDOUARD RINFRET.....	Aug. 25, 1949	Hon. JEAN-PAUL DESCHATELETS.....	Apr. 22, 1963
Hon. WALTER EDWARD HARRIS.....	Jan. 18, 1950	Hon. HÉDARD ROBICHAUD ²	Apr. 22, 1963
Hon. GEORGE PRUDHAM.....	Dec. 13, 1950	Hon. J. WATSON MACNAUGHT.....	Apr. 22, 1963
EARL ALEXANDER OF TUNIS.....	Jan. 29, 1952	Hon. ROGER TELLET ²	Apr. 22, 1963
Hon. JAMES SINCLAIR.....	Oct. 15, 1952	Hon. JUDY V. LAMARSH ²	Apr. 22, 1963
Hon. RALPH OSBORNE CAMPNEY.....	Oct. 15, 1952	Hon. CHARLES MILLS DRURY ²	Apr. 22, 1963
Hon. WILLIAM ROSS MACDONALD.....	May 12, 1953	Hon. JOHN ROBERT NICHOLSON ²	Apr. 22, 1963
Hon. GEORGE ALEXANDER DREW.....	May 12, 1953	Hon. HARRY HAYS.....	Apr. 22, 1963
Hon. JOHN WHITNEY PICKERSGILL.....	June 12, 1953	Hon. RENÉ TREMBLAY.....	Apr. 22, 1963
Hon. JEAN LESAGE.....	Sept. 17, 1953	Hon. ROBERT TASCHEREAU.....	Apr. 26, 1963
Hon. GEORGE CARLYLE MARLER.....	July 1, 1954	Hon. JOHN JOSEPH CONNOLLY ²	Feb. 3, 1964
Hon. ROCH PINARD.....	July 1, 1954	Hon. MAURICE SAUVÉ ²	Feb. 3, 1964
Hon. LOUIS RENÉ BEAUDOIN.....	Apr. 15, 1957	Hon. YVON DUFOIS.....	Feb. 3, 1964
Hon. PAUL THEODORE HELLYER ²	Apr. 26, 1957	Hon. GEORGE STANLEY WHITE.....	June 25, 1964
Rt. Hon. JOHN GEORGE DIFENBAKER.....	June 21, 1957	Hon. MAJOR JAMES WILLIAM COLDWELL.....	June 25, 1964
Hon. HOWARD CHARLES GREEN.....	June 21, 1957	Hon. EDGAR JOHN BENSON ²	June 29, 1964
Hon. DONALD METHUEN FLEMING.....	June 21, 1957	Hon. LÉO-ALPHONSE JOSEPH CADIEUX ²	Feb. 15, 1965
Hon. ALFRED JOHNSON BROOKS.....	June 21, 1957	Hon. LAWRENCE T. PENNELL ²	July 7, 1965
Hon. GEORGE HEES.....	June 21, 1957	Hon. JEAN-LUC PÉPIN ²	July 7, 1965
Hon. LÉON BALZER.....	June 21, 1957	Hon. ALAN AYLESWORTH.....	Oct. 25, 1965
Hon. GEORGE RANDOLPH PEARKES.....	June 21, 1957	MACNAUGHTON.....	Dec. 18, 1965
Hon. GORDON CHURCHILL.....	June 21, 1957	Hon. JEAN MARCHAND ²	Dec. 18, 1965
Hon. EDMUND DAVIE FULTON.....	June 21, 1957	Hon. JOHN JAMES GREENE ²	Dec. 18, 1965
Hon. DOUGLAS SCOTT HARKNESS.....	June 21, 1957	Hon. JOSEPH JULIEN JEAN-PIERRE CÔTÉ ²	Dec. 18, 1965
Hon. EILEEN LOUKS FAIRCLOUGH.....	June 21, 1957	Hon. JOHN NAPIER TURNER ²	Dec. 18, 1965
Hon. J. ANGUS MCLEAN.....	June 21, 1957	Hon. MAURICE BOURGET.....	Feb. 22, 1966
Hon. MICHAEL STARR.....	June 21, 1957	Hon. PIERRE FELLIOT TRUDEAU ²	Apr. 4, 1967
Hon. WILLIAM MCLEAN HAMILTON.....	June 21, 1957	Hon. JOSEPH JACQUES JEAN CHRÉTIEN ²	Apr. 4, 1967
Hon. JAMES MAC KERRAS MACDONNELL.....	June 21, 1957	Hon. PAULINE VANIER.....	Apr. 11, 1967
Hon. WILLIAM J. BROWNE.....	June 21, 1957	Hon. JOHN PARMENTER ROBERTS.....	July 5, 1967
Hon. JAY WALDO MONTEITH.....	Aug. 22, 1957	Hon. DANIEL JOHNSON.....	July 5, 1967
Hon. FRANCIS ALVIN GEORGE HAMILTON.....	Aug. 22, 1957	Hon. LOUIS J. ROBICHAUD.....	July 5, 1967
H.R.H. The Prince Philip, Duke of Edinburgh.....	Oct. 14, 1957	Hon. DUFFERIN ROBLIN.....	July 5, 1967
Hon. RAYMOND JOSEPH MICHAEL O'HURLEY.....	May 12, 1958	Hon. WILLIAM ANDREW CECIL BENNETT.....	July 5, 1967
Hon. HENRI COURTEMANCHE.....	May 12, 1958	Hon. ALEXANDER B. CAMPBELL.....	July 5, 1967
Hon. DAVID JAMES WALKER.....	Aug. 20, 1959	Hon. WILBERT ROSS THATCHER.....	July 5, 1967
Hon. JOSEPH PIERRE ALBERT SÉVIGNY.....	Aug. 20, 1959	Hon. ERNEST CHARLES MANNING.....	July 5, 1967
Hon. HUGH JOHN FLEMMING.....	Oct. 11, 1960	Hon. JOSEPH ROBERT SMALLWOOD.....	July 5, 1967
		Hon. ROBERT L. STANFIELD.....	July 7, 1967
		Hon. CHARLES RONALD MCKAY GRANGER ²	Sept. 25, 1967

¹ Members of Her Majesty's Privy Council for Canada take rank *inter se* according to the dates of their being sworn in.

² Ranks as a Member of the Cabinet.

³ Ranks as the Prime Minister of Canada.

6.—Duration and Sessions of Parliaments, 1953-67

NOTE.—Similar information for the 1st to the 12th Parliaments, covering the period from Confederation to 1917, is given in the 1940 Year Book, p. 46; that for the 13th to 17th Parliaments in the 1945 edition, p. 53; for the 18th and 19th Parliaments in the 1957-58 edition, p. 46; and for the 20th and 21st Parliaments in the 1965 edition, p. 65.

Order of Parliament	Session	Date of Opening	Date of Prorogation	Days of Session	Sitting Days of House of Commons	Date of Election, Writs Returnable, Dissolution, and Length of Parliament ^{1,2}
22nd Parliament.....	1st	Nov. 12, 1953	June 26, 1954	227	139	Aug. 10, 1953 ³ Oct. 8, 1953 ⁴ Apr. 12, 1957 ⁵ 3 y., 6 m., 5 d.
	2nd	Jan. 7, 1955	July 28, 1955	203	140	
	3rd	Jan. 10, 1956	Aug. 14, 1956	218	152	
	4th	Nov. 26, 1956	Jan. 8, 1957	44 ⁶	5	
	5th	Jan. 8, 1957	Apr. 12, 1957	95	71	
23rd Parliament.....	1st	Oct. 14, 1957	Feb. 1, 1958	111	78	June 10, 1957 ³ Aug. 8, 1957 ⁴ Feb. 1, 1958 ⁵ 5 m., 25 d.
24th Parliament.....	1st	May 12, 1958	Sept. 6, 1958	117	93	Mar. 31, 1958 ³ Apr. 30, 1958 ⁴ Apr. 19, 1962 ⁵ 3 y., 11 m., 20 d.
	2nd	Jan. 15, 1959	July 18, 1959	185	127	
	3rd	Jan. 14, 1960	Aug. 10, 1960	210	146	
	4th	Nov. 17, 1960	Sept. 28, 1961	316 ⁷	174	
	5th	Jan. 18, 1962	Apr. 18, 1962	91	65	
25th Parliament.....	1st	Sept. 27, 1962	Feb. 5, 1963 ⁸	132	72	June 18, 1962 ³ July 18, 1962 ⁴ Feb. 6, 1963 ⁵ 6 m., 20 d.
26th Parliament.....	1st	May 16, 1963	Dec. 21, 1963	220 ⁹	117	Apr. 8, 1963 ³ May 8, 1963 ⁴ Sept. 8, 1965 ⁵ 1 y., 5 m., 1 d.
	2nd	Feb. 18, 1964	Apr. 3, 1965	411 ¹⁰	248	
	3rd	Apr. 6, 1965	Sept. 8, 1965 ¹¹	157 ¹²	53	
27th Parliament.....	1st	Jan. 18, 1966	May 8, 1967	476 ¹³	250	Nov. 8, 1965 ³ Dec. 9, 1965 ⁴
	2nd	May 8, 1967	...	...	...

¹ The ordinary legal limit of duration for each Parliament is five years. ² Duration of Parliament in years, months and days. The life of a Parliament is counted from the date of return of election writs to the date of dissolution, both days inclusive (BNA Act, Sect. 50). ³ Date of general election. ⁴ Writs returnable.

⁵ Dissolution of Parliament. ⁶ Includes long adjournment from Nov. 29, 1956 to Jan. 8, 1957. ⁷ Includes long adjournment from July 13 to Sept. 7, 1961. ⁸ Government defeated in House of Commons on want of confidence motion. ⁹ Includes long adjournment from Aug. 2 to Sept. 30, 1963. ¹⁰ Includes long adjournment from Dec. 18, 1964 to Feb. 16, 1965. ¹¹ House adjourned on June 30 until Sept. 27 but dissolved on Sept. 8, 1965. ¹² Includes long adjournment from June 30 to Sept. 27, superseded by dissolution on Sept. 8, 1965. ¹³ Includes 18-day Christmas adjournment, 11-day Easter adjournment, and two long adjournments totalling 70 days (July 14 to Aug. 29 and Sept. 9 to Oct. 5).

Subsection 2.—The Legislature

The federal legislative authority is vested in the Parliament of Canada consisting of The Queen, an Upper House styled the Senate, and the House of Commons. Bills may originate in either the Senate or the House subject to the provisions of Sect. 53 of the British North America Act, 1867, which provides that Bills for the appropriation of any part of the public revenue or the imposition of any tax or impost shall originate in the House of Commons. Bills must pass both Houses and receive Royal Assent before becoming law. In practice, most public Bills originate in the House of Commons, although there has been a marked increase recently in the introduction of public Bills in the Senate, at the instance of the Government, in order that Bills may be dealt with in the Senate while the Commons is engaged in other matters such as the debate on the Speech from the Throne. Private Bills usually originate in the Senate. The Senate may delay, amend or even refuse to pass Bills sent to it from the Commons, but differences are usually settled without serious conflict. (See Chap. XXVII for current legislation.)

Under Sect. 91 of the British North America Acts, 1867 to 1964, the legislative authority of the Parliament of Canada extends to the following: the amendment of the Constitution

of Canada (subject to certain exceptions—see p. 69); the public debt and property; the regulation of trade and commerce; unemployment insurance; the raising of money by any mode or system of taxation; the borrowing of money on the public credit; postal service; the Census and statistics; militia, military and naval service, and defence; the fixing of and providing for the salaries and allowances of civil and other officers of the Government of Canada; beacons, buoys, lighthouses and Sable Island; navigation and shipping; quarantine and the establishment and maintenance of marine hospitals; sea coast and inland fisheries; ferries between a province and any British or foreign country or between two provinces; currency and coinage, banking, incorporation of banks and the issue of paper money; savings banks; weights and measures; bills of exchange and promissory notes; interest; legal tender; bankruptcy and insolvency; patents of invention and discovery; copyrights; Indians and lands reserved for the Indians; naturalization and aliens; marriage and divorce; the criminal law, except the constitution of courts of criminal jurisdiction, but including the procedure in criminal matters; the establishment, maintenance and management of penitentiaries; such classes of subjects as are expressly excepted in the enumeration of the classes of subjects by these Acts assigned exclusively to the legislatures of the provinces.

Under Sect. 95, the Parliament of Canada may make laws in relation to agriculture and immigration concurrently with provincial legislatures although federal legislation is paramount in the event of conflict. By the British North America Act, 1951 (Br. Stat. 1950-51, c. 32) it is declared that the Parliament of Canada may make laws in relation to old age pensions in Canada but no such law shall affect the operation of any provincial laws in relation to old age pensions. By the British North America Act, 1964, which received Royal Assent on July 31, 1964, this amendment was extended at the request of the Parliament of Canada (June 19, 1964) to permit the payment of supplementary benefits, including survivors' and disability benefits irrespective of age, under a contributory pension plan.

The Senate.—From an original membership of 72 at Confederation, the Senate, through the addition of new provinces and the general growth of population, now has 102 members, the latest change in representation having been made on the admission of Newfoundland to Confederation in 1949. The growth of representation in the Senate is summarized by province in Table 7.

Senators are appointed by the Governor General by instrument under the Great Seal of Canada. The actual power of appointing Senators resides by constitutional usage in the Prime Minister whose advice the Governor General accepts in this regard. Until the passage of "An Act to make provision for the retirement of members of the Senate" (SC 1965, c. 4), assented to on June 2, 1965, Senators were appointed for life; that Act fixes at 75 years the age at which any person appointed to the Senate after the coming into force of the Bill will cease to hold his place in the Senate.

In each of the four main divisions of Canada except Quebec, Senators represent the whole of the province for which they are appointed; in Quebec, one Senator is appointed for each of the 24 electoral divisions of what was formerly Lower Canada. The deliberations of the Senate are presided over by a Speaker appointed by the Governor General in Council (in effect by the Government) and government business in the Senate is sponsored by the Government Leader in the Senate.

The Senate is not a competitor of the House of Commons in the field of legislation but, in the main, acts as a second chamber giving further scrutiny to legislation initiated in the House of Commons. Under the Constitution, Bills for appropriating any part of the public revenue or for imposing a tax or impost must originate in the Commons but in every other respect, since both Houses must concur in every piece of legislation, the Senate has an equal voice with the House of Commons.

7.—Representation in the Senate since Confederation, 1867

Province	1867	1870	1871	1873	1882	1887	1892	1903	1905	1915-1948	1949-1967
Ontario.....	24	24	24	24	24	24	24	24	24	24	24
Quebec.....	24	24	24	24	24	24	24	24	24	24	24
Atlantic Provinces.....	24	24	24	24	24	24	24	24	24	24	30
Nova Scotia.....	12	12	12	10	10	10	10	10	10	10	10
New Brunswick.....	12	12	12	10	10	10	10	10	10	10	10
Prince Edward Island.....	...	...	...	4	4	4	4	4	4	4	4
Newfoundland.....	...	...	...	...	...	...	...	...	...	...	6
Western Provinces.....	...	2	5	5	6	8	9	11	15	24	24
Manitoba.....	...	2	2	2	3	3	4	4	4	6	6
British Columbia.....	...	...	3	3	3	3	3	3	3	6	6
Saskatchewan.....	...	...	...	...	...	2	2	4	4	6	6
Alberta.....	...	...	...	...	...	...	...	...	4	6	6
Totals.....	72	74	77	77	78	80	81	83	87	96	102

8.—Members of the Senate, by Province, as at Sept. 30, 1967¹

Speaker.....	HON. SYDNEY JOHN SMITH
Leader of the Government.....	HON. JOHN J. CONNOLLY
Leader of the Opposition.....	HON. ALFRED J. BROOKS
Clerk of the Senate and Clerk of the Parliaments.....	JOHN FORBES MACNEILL

(Ranked according to seniority, by province. All Senators are entitled to the designation "Honourable".)

Province and Name of Senator	P.O. Address	Province and Name of Senator	P.O. Address
Newfoundland— (6 Senators)		Nova Scotia—concluded	
BAIRD, ALEXANDER BOYD.....	St. John's	O'LEARY, CLEMENT AUGUSTINE..	Antigonish
BASHA, MICHAEL G.....	Curling	WELCH, FRANK C.....	Wolfville
HOLLETT, MALCOLM.....	St. John's	URQUHART, EARL WALLACE.....	West Bay
COOK, ERIC.....	St. John's	New Brunswick— (8 Senators—2 vacancies)	
CARTER, CHESLEY WILLIAM.....	St. John's	BURCHILL, GEORGE PERCIVAL....	South Nelson
DUGGAN, JAMES.....	St. John's	FERGUSON, MURIEL McQUEEN...	Fredericton
Prince Edward Island— (4 Senators)		McGRAND, FRED A.....	Fredericton Jct.
INMAN, FLORENCE ELSIE.....	Montague	SAVOIE, CALIXTE F.....	Moncton
MacDONALD, JOHN JOSEPH.....	Charlottetown	BROOKS, ALFRED JOHNSON.....	Sussex
PHILLIPS, ORVILLE HOWARD.....	Alberton	FOURNIER, EDGAR.....	Iroquois
KICKHAM, THOMAS JOSEPH.....	Souris	RATTENBURY, NELSON.....	Saint John
Nova Scotia— (9 Senators—1 vacancy)		McELMAN, CHARLES ROBERT.....	Fredericton
KINLEY, JOHN JAMES.....	Lunenburg	Quebec— (23 Senators—1 vacancy)	
ISNOR, GORDON B.....	Halifax	GOVIN, LÉON MERCIER.....	Montreal
SMITH, DONALD.....	Liverpool	VIEU, THOMAS.....	Outremont
CONNOLLY, HAROLD.....	Halifax	VALLANCOURT, CYRILLE.....	Lévis
BLOIS, FREDERICK MURRAY.....	Truro	DESSUREAULT, JEAN-MARIE.....	Quebec
MacDONALD, JOHN MICHAEL.....	North Sydney	FOURNIER, SARTE.....	Montreal
		MOLSON, HARTLAND DE MONTARVILLE.....	Montreal

¹ Changes occurring between Sept. 30, 1967 and the date of going to press will be carried in an Appendix to this volume.

8.—Members of the Senate, by Province, as at Sept. 30, 1967—concluded

Province and Name of Senator	P.O. Address	Province and Name of Senator	P.O. Address
Quebec—concluded		Ontario—concluded	
POWER, CHARLES GAVAN.....	St. Pacôme	BENEDICKSON, WILLIAM MOORE....	Kenora
POULIOT, JEAN-FRANÇOIS.....	Rivière du Loup	DAVEY, DOUGLAS KEITH.....	Toronto
LEFRANÇOIS, J. EUGÈNE.....	Montreal	THOMPSON, ANDREW ERNEST.....	Kendal
MÉTHOT, LÉON.....	Trois-Rivières	LAIRD, KEITH.....	Windsor
MONETTE, GUSTAVE.....	Montreal	KINNEAR, MARY ELIZABETH.....	Port Colborne
QUART, JOSIE ALICE DINAN.....	Quebec		
BEAUBIEN, LOUIS PHILIPPE.....	Montreal	Manitoba—	
FLYNN, JACQUES.....	Quebec	(6 Senators)	
BOURGET, MAURICE.....	Lévis	BEAUBIEN, ARTHUR L.....	St. Jean Baptiste
GÉLINAS, LOUIS P.....	Montreal	THORVALDSON, GUNNAR S.....	Winnipeg
BOURQUE, ROMUALD.....	Outremont	IRVINE, OLIVE LILLIAN.....	Winnipeg
DENIS, AZELUS.....	Montreal	HAIG, J. CAMPBELL.....	Winnipeg
DESCHATELETS, JEAN-PAUL.....	Montreal	YUZYK, PAUL.....	Winnipeg
MACNAUGHTON, ALAN AYLESWORTH	Westmount	EVERETT, DOUGLAS DONALD.....	Winnipeg
LANGLOIS, J. G. LÉOPOLD.....	Quebec		
DESRUISSEAU, PAUL.....	Sherbrooke	Saskatchewan—	
LAMONTAGNE, MAURICE.....	Montreal	(5 Senators—1 vacancy)	
		ASELTINE, WALTER M.....	Rosetown
Ontario—		BOUCHER, WILLIAM ALBERT.....	Prince Albert
(23 Senators—1 vacancy)		PEARSON, ARTHUR M.....	Lumsden
HAYDEN, SALTER ADRIAN.....	Toronto	MCDONALD, ALEXANDER HAMILTON	Regina
PATERSON, NORMAN McLEOD.....	Fort William	ARGUE, HAZEN ROBERT.....	Kayville
ROEBUCK, ARTHUR WENTWORTH..	Toronto		
MACDONALD, WILLIAM ROSS.....	Brantford	Alberta—	
CONNOLLY, JOHN J.....	Ottawa	(6 Senators)	
CROLL, DAVID A.....	Toronto	GERSHAW, FRED WILLIAM.....	Medicine Hat
LEONARD, THOMAS D'ARCY.....	Toronto	CAMERON, DONALD.....	Edmonton
WHITE, GEORGE STANLEY.....	Madoc	GLADSTONE, JAMES.....	Cardston
SULLIVAN, JOSEPH A.....	Toronto	HASTINGS, EARL ADAM.....	Calgary
CHOQUETTE, LIONEL.....	Ottawa	HAYS, HARRY WILLIAM.....	Calgary
WELLS, HARRY A.....	Toronto	PROWSE, JAMES HARPER.....	Edmonton
McCUTCHEON, M. WALLACE.....	Toronto		
O'LEARY, M. GRATTAN.....	Ottawa	British Columbia—	
GROSART, ALLISTER.....	Ottawa	(5 Senators—1 vacancy)	
WALKER, DAVID JAMES.....	Toronto	FARRIS, JOHN WALLACE DE B.....	Vancouver
BELISLE, RHÉAL.....	Sudbury	REID, THOMAS.....	New Westminster
LANG, DANIEL AIKEN.....	Toronto	SMITH, SYDNEY JOHN.....	Kamloops
AIRD, JOHN BLACK.....	Toronto	MACKENZIE, NORMAN ARCHIBALD	
		McRAE.....	Vancouver
		NICHOL, JOHN LANG.....	Vancouver

The House of Commons.—The British North America Act, 1867 provided that in respect of representation in the House of Commons the Province of Quebec should have the fixed number of sixty-five members and that there should be assigned to each of the other provinces such a number of members as would bear the same proportion to the number of its population as the number sixty-five bears to the number of the population of Quebec. This Act also provided that on the completion of a census in 1871 and of each subsequent decennial census the representation of the several provinces should be re-adjusted provided the proportionate representation of the provinces as prescribed by the Act were not thereby disturbed.

In the session of 1946 the House of Commons adopted a resolution stating that the effect of the provisions of the British North America Act relating to representation had not been satisfactory in that proportionate representation of the provinces according to population had not been maintained and that a more equitable apportionment of members to the various provinces could be effected if readjustments were made on the basis of the population of all the provinces taken as a whole. The Act was amended accordingly in 1946 to provide a new rule to regulate representation in the House of Commons. Generally speaking, representation was fixed as follows:—

The membership assigned to each province shall be computed by dividing the total population of the provinces by two hundred and fifty-four and by dividing the population of each province by the quotient so obtained.

This rule, employed in the redistribution of representation made in 1947, was effective in the General Election of 1949.

After the completion of the 1951 Census it was apparent that, as a result of a wartime shift of population, a substantial reduction in the representation of the Province of Saskatchewan would ensue under the rules then regulating representation. Accordingly, in an effort to eliminate sharp reductions in provincial representation from one census to another, the British North America Act was again amended (RSC 1952, c. 304, Sect. 51) (see Canada Year Book 1963-64, p. 75) to ensure that the representation of any province should not be reduced by more than 15 p.c. at any one readjustment, subject however to the qualifications that the effect of the rule should not be to make the representation of a province with a smaller population greater than any province with a larger population.

Subsequently in 1952, Parliament enacted RSC 1952, c. 334, effective in the General Election of 1953 and in each successive General Election down to that of the Twenty-seventh Parliament (Nov. 8, 1965), which provided that representation in the House of Commons should be on the following basis:—

Sect. 2.—Eighty-five members of the House of Commons shall be elected for the Province of Ontario, seventy-five for the Province of Quebec, twelve for the Province of Nova Scotia, ten for the Province of New Brunswick, fourteen for the Province of Manitoba, twenty-two for the Province of British Columbia, four for the Province of Prince Edward Island, seventeen for the Province of Saskatchewan, seventeen for the Province of Alberta, seven for the Province of Newfoundland, one for the Yukon Territory and one for Mackenzie district of the Northwest Territories, thus making a total of two hundred and sixty-five members.

The number of representatives of each province elected at each of the 27 General Elections since Confederation is given in Table 9.

9.—Representation in the House of Commons, as at Federal General Elections 1867-1965

Province or Territory	1867	1872	1874 1878	1882	1887 1891	1896 1900	1904	1908 1911	1917 1921	1925 1930	1935 1945	1949	1953 1957 1958 1962 1963 1965
Ontario.....	82	88	88	92	92	92	86	86	82	82	82	83	85
Quebec.....	65	65	65	65	65	65	65	65	65	65	65	73	75
Nova Scotia.....	19	21	21	21	21	20	18	18	16	14	12	13	12
New Brunswick.....	15	16	16	16	14	14	13	13	11	11	10	10	10
Manitoba.....	...	4	4	5	5	7	10	10	15	17	17	16	14
British Columbia.....	...	6	6	6	6	6	7	7	13	14	16	18	22
Prince Edward Island.....	...	...	6	6	6	5	4	4	4	4	4	4	4
Saskatchewan.....	...	...	...	...	4	4	10	10	16	21	21	20	17
Alberta.....	...	...	...	...	...	...	1	1	12	16	17	17	17
Yukon Territory.....	...	...	...	...	...	...	...	...	1	1	1	1	1
Mackenzie River, N.W.T. }	...	...	...	...	...	...	...	...	...	...	...	...	...
Newfoundland.....	...	...	...	...	...	...	...	...	...	...	...	7	7
Totals.....	181	200	206	211	215	213	214	221	235	245	245	262	265

¹ Northwest Territories in 1963 and 1965.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-seventh General Election, Nov. 8, 1965 and Revised to Sept. 30, 1967

Speaker.....	Hon. LUCIEN LAMOUREUX
Prime Minister.....	Rt. Hon. LESTER B. PEARSON
Leader of the Opposition.....	Hon. ROBERT L. STANFIELD (from Nov. 15, 1967)
Clerk of the House of Commons.....	ALISTAIR FRASER ¹

NOTE.—The vote is summarized by provinces in Table 12, p. 90. The leaders of the political parties are indicated by asterisks (*). For Parliamentary Secretaries, see p. 76. This information, except the population of constituencies, has been supplied by the Chief Electoral Officer. Party affiliations are unofficial. Lib.=Liberal; P.C.=Progressive Conservative; S.C.=Social Credit; N.D.P.=New Democratic Party; R.cr.=Ralliement créditiste; Ind.=Independent. Party standing at General Election of Nov. 8, 1965: 131 Liberal, 97 Progressive Conservative, 21 New Democratic Party, 9 Ralliement créditiste, 5 Social Credit and 2 Independent.

Province and Electoral District	Population, Census 1961	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Newfoundland— (7 members)							
Bonavista-Twillingate..	50,527	24,819	13,866	10,113	Hon. J. W. PICKERSGILL ²	Ottawa, Ont.....	Lib.
Burin-Burgeo.....	48,673	23,499	15,253	11,350	C. W. CARTER ³	St. John's.....	Lib.
Grand Falls-White Bay-Labrador.....	82,433	44,208	25,543	17,933	C. R. GRANGER ⁴	Ottawa, Ont.....	Lib.
Humber-St. George's..	74,015	32,439	22,275	13,855	H. M. BATTEN.....	Corner Brook.....	Lib.
St. John's East.....	77,070	39,362	29,259	16,182	J. P. O'KEEFE.....	St. John's.....	Lib.
St. John's West.....	68,979	33,024	25,503	14,481	R. CASHIN.....	St. John's.....	Lib.
Trinity-Conception....	56,156	28,731	16,693	10,377	J. R. TUCKER.....	St. John's.....	Lib.
Prince Edward Island— (4 members)							
Kings.....	17,893	10,074	9,216	4,591	M. J. McQUAID.....	Souris.....	P.C.
Prince.....	40,894	20,160	17,895	9,082	D. MacDonald.....	Alberton.....	P.C.
Queens.....	45,842	26,250	44,895	{12,583 12,305	Hon. J. A. MacLEAN..... H. MacQUARRIE.....	Beaton's Mills..... Victoria.....	P.C. P.C.
Nova Scotia— (12 members)							
Antigonish-Guysborough.....	27,634	14,750	12,697	6,210	J. B. STEWART.....	Bayfield.....	Lib.
Cape Breton North and Victoria.....	50,957	25,531	21,469	11,258	R. MUIR.....	Sydney Mines.....	P.C.
Cape Breton South.....	85,001	42,190	37,221	13,670	D. MacINNIS.....	Glace Bay.....	P.C.
Colchester-Hants.....	60,751	34,611	29,824	15,250	C. F. KENNEDY ⁵	Truro.....	P.C.
Cumberland.....	37,797	20,818	18,100	9,560	R. C. COATES.....	Amherst.....	P.C.
Digby-Annapolis-Kings	76,073	39,527	33,708	17,845	J. P. NOWLAN.....	Wolfville.....	P.C.
Halifax.....	225,723	124,633	184,153	{46,007 40,983	R. McCLEAVE..... J. M. FORRESTALL.....	Halifax..... Waverley.....	P.C. P.C.
Inverness-Richmond..	33,907	18,609	15,456	8,137	Hon. A. J. MacEACHEN.	Inverness.....	Lib.
Pictou.....	43,908	24,703	21,466	11,289	R. MacEWAN.....	New Glasgow.....	P.C.
Queens-Lunenburg....	48,153	29,772	23,699	13,556	L. R. CROUSE.....	Lunenburg.....	P.C.
Shelburne-Yarmouth-Clare.....	47,133	26,377	22,353	10,744	J. O. BOWER.....	Shelburne.....	P.C.
New Brunswick— (10 members)							
Charlotte.....	23,285	13,550	11,725	5,879	A. McLEAN.....	Black's Harbour..	Lib.
Gloucester.....	66,343	30,355	23,566	14,121	Hon. H.-J. ROBICHAUD.	Caraquet.....	Lib.
Kent.....	26,667	11,916	9,662	5,713	G. F. CROSSMAN.....	Buctouche.....	Lib.
Northumberland-Miramichi.....	50,035	23,222	18,780	9,564	G. R. McWILLIAM.....	Newcastle.....	Lib.
Restigouche-Madawaska.....	79,956	35,680	27,855	15,211	J.-E. DUBÉ.....	Campbellton.....	Lib.
Royal.....	37,548	22,228	17,937	9,865	G. FAIRWEATHER.....	East Riverside..	P.C.
Saint John-Albert.....	101,736	56,786	42,940	21,909	T. M. BELL.....	Saint John.....	P.C.
Victoria-Carleton....	43,219	21,579	16,710	9,462	Hon. H. J. FLEMING..	Juniper.....	P.C.
Westmorland.....	93,679	50,055	42,143	20,768	MARGARET RIDEOUT..	Moncton.....	Lib.
York-Sunbury.....	75,468	39,363	32,866	15,813	J. C. MacRAE.....	Silverwood.....	P.C.

¹ Appointed Aug. 6, 1967, vice Leon J. Raymond, retired.

² Resigned Sept. 19, 1967; see Appendix for by-election.

³ Appointed to Senate July 8, 1966; see Table 11 for by-election.

⁴ Resigned Aug. 1, 1966; see Table 11 for by-election.

⁵ Resigned Sept. 18, 1967; see Appendix for by-election.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-seventh General Election, Nov. 8, 1965 and Revised to Sept. 30, 1967—continued

Province and Electoral District	Population, Census 1961	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Quebec— (75 members)							
Argenteuil-Deux-Montagnes.....	64,667	36,774	29,994	14,035	R.-E. RÉCIMBAL.....	Lachute.....	P.C.
Beauce.....	61,332	30,977	25,799	10,530	J.-P. RACINE.....	St. Honoré de Shenley.....	Lib.
Beauharnois-Salaberry.....	70,191	42,254	32,780	16,145	G. LANIEL.....	Salaberry de Valleyfield.....	Lib.
Bellechasse.....	32,513	15,902	11,772	4,783	H. LAVERDIÈRE.....	St. Lazare.....	Lib.
Berthier-Maskinongé-Delanaudière.....	48,749	26,189	18,127	7,868	A. YANAKIS.....	St. Gabriel de Brandon.....	Lib.
Bonaventure.....	42,962	20,971	16,441	8,985	A. BÉCHARD.....	Carleton sur Mer.....	Lib.
Brome-Missisquoi.....	43,217	25,095	19,562	9,662	H. GRAFFTEY.....	Knowlton.....	P.C.
Chambly-Rouville.....	60,959	37,198	24,839	14,377	B. PILON.....	Beloeil.....	Lib.
Champlain.....	63,086	33,452	26,170	12,334	J.-P. MATTE.....	St. Tite.....	Lib.
Chapleau.....	71,394	35,897	26,000	15,402	G. LAPRIÈRE.....	LaSarre.....	R.cr.
Charlevoix.....	48,906	24,486	19,876	6,844	Hon. M. ASSELIN.....	La Malbaie.....	P.C.
Châteauguay-Huntingdon-Laprairie.....	61,729	38,707	23,268	14,222	I. WATSON.....	Howick.....	Lib.
Chicoutimi.....	83,635	39,042	29,975	11,092	P. LANGLOIS.....	Chicoutimi.....	Lib.
Compton-Frontenac.....	42,366	19,790	15,140	7,240	H. LATULIPE.....	Lac Mégantic.....	R.cr.
Dorchester.....	38,953	18,011	12,872	4,602	G. CÔTÉ.....	Ste. Claire.....	Lib.
Drummond-Arthabaska.....	89,851	48,784	39,191	15,179	Hon. J.-L. PÉPIN.....	Drummondville.....	Lib.
Gaspé.....	65,300	28,654	22,901	11,045	J.-R. KEAYS.....	Gaspé.....	P.C.
Gatineau.....	58,771	33,735	24,818	13,088	G. ISABELLE.....	Aylmer East.....	Lib.
Hull.....	86,563	44,816	32,988	17,832	A. CARON ¹	Hull.....	Lib.
Îles-de-la-Madeleine.....	12,479	5,782	5,430	2,860	Hon. M. SAUVÉ.....	Outremont.....	Lib.
Joliette-L'Assomption-Montcalm.....	102,717	59,084	38,815	15,221	J.-R. COMTOIS.....	Repentigny.....	Lib.
Kamouraska.....	35,312	17,694	12,187	6,127	C.-E. DIONNE.....	St. Pascal.....	R.cr.
Labbelle.....	45,701	22,103	15,815	6,554	G. CLERMONT.....	Thurso.....	Lib.
Lac-Saint-Jean.....	48,149	21,547	17,906	5,642	A. SIMARD.....	Alma.....	R.cr.
Lapointe.....	74,408	33,704	26,999	13,210	G. GRÉGOIRE.....	Jonquière.....	R.cr. ⁴
Lévis.....	49,047	29,479	24,907	10,895	R. GUAY.....	Launzon.....	Lib.
Longueuil.....	107,318	63,467	39,430	21,578	Hon. J.-P. CÔTÉ.....	Longueuil.....	Lib.
Lotbinière.....	38,529	17,847	15,072	6,238	A. CHOQUETTE.....	Laurier Station.....	Lib.
Matapédia-Matane.....	67,226	27,557	20,394	10,435	Hon. R. TREMBLAY.....	Quebec.....	Lib.
Mégantic.....	70,064	32,844	25,231	11,195	R. LANGLOIS.....	Thetford Mines.....	R.cr.
Montmagny-L'Islet.....	40,987	20,773	14,815	6,389	J. BERGER.....	L'Islet.....	Lib.
Nicolet-Yamaska.....	45,192	24,195	18,625	11,734	C. VINCENT ²	Ste. Perpétue.....	P.C.
Pontiac-Témiscamingue.....	41,069	20,868	16,984	6,593	T. LEFEBVRE.....	Temiscaming.....	Lib.
Portneuf.....	48,137	25,834	19,680	6,539	R. GODIN.....	Les Écureuils.....	R.cr.
Quebec East.....	92,170	54,124	41,860	18,900	G. DUQUET.....	Quebec.....	Lib.
Quebec South.....	54,535	34,323	26,933	16,141	J.-C. CANTIN.....	Quebec.....	Lib.
Quebec West.....	57,763	33,043	26,032	10,669	Hon. J. MARCHAND.....	Quebec.....	Lib.
Quebec-Montmorency.....	138,030	90,056	66,942	30,084	O. LAFLAMME.....	Ste. Foy.....	Lib.
Richelieu-Verchères.....	60,832	38,224	26,514	15,697	Hon. L.-J.-L. CARDIN ³	Ste. Anne de Sorel.....	Lib.
Richmond-Wolfe.....	60,534	28,315	21,557	8,685	P.-T. ASSELIN.....	Bromptonville.....	Lib.
Rimouski.....	75,076	35,962	27,177	11,372	G. LEBLANC.....	Rimouski.....	Lib.
Rivière-du-Loup-Témiscouata.....	58,909	26,641	20,829	11,026	R. GENDRON.....	Rivière du Loup.....	Lib.
Roberval.....	56,234	24,574	19,794	8,736	C.-A. GAUTHIER.....	Mistassini.....	R.cr.
Saint-Hyacinthe-Bagot-Saint-Jean-Iberville-Napierville.....	63,942	37,133	28,811	15,127	Hon. J.-H.-T. RICARD.....	St. Hyacinthe.....	P.C.
Saint-Maurice-Lafleche-Saguenay.....	65,464	35,528	29,113	12,510	P. BEAULIEU.....	St. Jean.....	P.C.
Shefford.....	86,296	44,121	32,970	14,395	J. CHRÉTIEN.....	Shawinigan.....	Lib.
Sherbrooke.....	81,067	56,624	33,424	15,062	G. BLOUIN.....	Sept Îles.....	Lib.
Stanstead.....	67,962	36,900	29,350	9,494	L.-P. NEVEU.....	Granby.....	Lib.
Terrebonne.....	73,417	44,432	33,584	11,808	M. ALARD.....	Sherbrooke.....	Ind.
	43,309	24,122	18,360	7,626	Y. FOREST.....	Magog.....	P.C.
	102,450	61,662	38,641	16,806	Hon. L. CADIEUX.....	St. Antoine des Laurentides.....	Lib.

¹ Died Aug. 31, 1966; see Table 11 for by-election.

² Resigned Apr. 4, 1967; see Table 11 for by-election.

³ Resigned May 4, 1966; see Table 11 for by-election.

⁴ Ind. from Sept. 1, 1966.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-seventh General Election, Nov. 8, 1965 and Revised to Sept. 30, 1967—continued

Province and Electoral District	Population, Census 1961	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Quebec—concluded							
Trois-Rivières.....	68,854	40,700	32,137	12,927	J.-A. MONGRAIN.....	Trois-Rivières....	Ind.
Vaudreuil-Soulanges..	38,756	23,319	17,851	8,955	R. ÉMARD.....	Île Perrot.....	Lib.
Villeneuve.....	79,675	36,584	28,972	19,839	R. CAQUETTE*.....	Rouyn.....	R.cr.
Montreal and							
Jésus Islands—							
Cartier.....	51,819	18,261	11,067	5,389	M. L. KLEIN.....	Montreal.....	Lib.
Dollard.....	107,394	60,919	42,200	22,496	J.-P. GOYER.....	St. Laurent.....	Lib.
Hochelega.....	79,912	45,314	25,539	11,929	G. PELLETIER.....	Westmount.....	Lib.
Jacques-Cartier—							
Lasalle.....	163,148	109,535	79,490	44,251	R. ROCK.....	Lachine.....	Lib.
Lafontaine.....	50,325	29,703	19,331	9,101	G.-C. LACHANCE.....	Montreal.....	Lib.
Laurier.....	45,652	25,155	13,356	7,032	F.-E. LEBLANC.....	Montreal.....	Lib.
Laval.....	193,437	137,190	90,057	44,533	J.-L. ROCHON.....	Montreal.....	Lib.
Maisonneuve—							
Rosemont.....	108,023	66,709	39,772	17,663	J.-A. THOMAS.....	Montreal.....	Lib.
Mercier.....	233,964	146,201	86,346	39,205	P. BOULANGER.....	Montreal.....	Lib.
Mont-Royal.....	128,524	76,942	51,287	28,064	P.-E. TRUDEAU.....	Montreal.....	Lib.
Notre-Dame-							
de Grâce.....	100,719	59,776	43,816	17,796	W. ALLMAND.....	Montreal.....	Lib.
Outremont-Saint-Jean	63,888	32,957	20,515	11,855	Hon. M. LAMONTAGNE ¹	Montreal.....	Lib.
Papineau.....	87,588	47,504	27,036	13,920	Hon. G. FAVREAU ²	Montreal.....	Lib.
St. Ann.....	38,173	16,515	10,573	6,150	G. LOISELLE.....	Montreal.....	Lib.
Saint-Antoine—							
Westmount.....	55,690	35,560	23,906	13,378	Hon. C. M. DRURY.....	Westmount.....	Lib.
Saint-Denis.....	69,039	35,024	21,734	11,000	M. PRUD'HOMME.....	Montreal.....	Lib.
Saint-Henri.....	71,691	37,718	24,224	12,310	H.-P. LESSARD.....	Montreal.....	Lib.
Saint-Jacques.....	54,679	28,328	16,429	7,023	M. RINFRET.....	Montreal.....	Lib.
St. Lawrence—							
St. George.....	34,020	19,255	11,693	6,920	Hon. J. N. TURNER.....	Montreal.....	Lib.
Sainte-Marie.....	56,455	28,973	17,941	9,672	G.-J. VALADE.....	Montreal.....	P.C.
Verdun.....	78,317	45,593	31,148	18,072	B. S. MACKASEY.....	Verdun.....	Lib.
Ontario—							
(85 members)							
Algoma East.....	54,868	22,807	17,307	9,268	Rt. Hon. L. B. PEARSON*	Ottawa.....	Lib.
Algoma West.....	80,542	43,564	33,817	12,034	G. E. NIXON.....	Sault Ste. Marie..	Lib.
Brantford.....	54,392	31,231	24,356	9,948	J. E. BROWN.....	Brantford.....	Lib.
Brant-Haldimand.....	57,644	34,140	26,065	13,179	Hon. L. T. PENNELL.....	Brantford.....	Lib.
Bruce.....	29,334	17,075	13,818	6,846	J. LONEY.....	Tiverton.....	P.C.
Carleton.....	130,497	89,318	74,342	32,456	Hon. R. A. BELL.....	Bells Corners.....	P.C.
Cochrane.....	47,854	24,535	18,511	7,505	J.-A. HABEL.....	Kapuskasing.....	Lib.
Dufferin-Simcoe.....	53,226	27,109	20,712	9,701	J. E. MADILL.....	Orangeville.....	P.C.
Durham.....	39,916	23,099	19,037	8,017	R. C. HONEY.....	Port Hope.....	Lib.
Elgin.....	62,862	33,952	27,965	13,343	H. E. STAFFORD.....	St. Thomas.....	Lib.
Essex East.....	99,432	56,353	41,589	26,094	Hon. P. MARTIN.....	Windsor.....	Lib.
Essex South.....	55,816	30,898	24,537	12,887	F. F. WHELAN.....	Amherstburg.....	Lib.
Essex West.....	101,526	57,425	38,969	21,525	H. GRAY.....	Windsor.....	Lib.
Fort William.....	57,642	31,978	26,334	12,432	H. BADANAI.....	Fort William.....	Lib.
Glenarry-Prescott.....	46,443	24,335	19,471	10,339	V. ETHEIR.....	Glen Robertson..	P.C.
Grenville-Dundas.....	40,026	22,980	17,549	9,845	J. VAN WADDS.....	Prescott.....	P.C.
Grey-Bruce.....	36,883	21,807	17,631	10,138	E. A. WINKLER ³	Hanover.....	P.C.
Grey North.....	38,824	22,812	18,806	9,222	P. V. NOBLE.....	Shallow Lake.....	P.C.
Halton.....	107,285	67,263	53,120	25,213	H. C. HARLEY.....	Oakville.....	Lib.
Hamilton East.....	65,257	35,053	26,118	12,692	J. C. MUNRO.....	Hamilton.....	Lib.
Hamilton South.....	121,161	70,402	54,632	22,736	W. D. HOWE.....	Hamilton.....	N.D.P.
Hamilton West.....	72,131	41,997	30,939	13,247	J. MACALUSO.....	Hamilton.....	Lib.
Hastings-Frontenac.....	48,217	25,305	17,744	11,291	R. WEBB.....	Norwood.....	P.C.
Hastings South.....	70,806	36,943	30,978	14,824	L. GRILLS.....	Belleville.....	P.C.
Huron.....	48,355	25,551	21,680	10,670	E. E. MCKINLEY.....	Zurich.....	P.C.
Kenora-Rainy River.....	72,775	36,558	26,194	11,488	J. M. RED.....	Kenora.....	P.C.
Kent.....	76,485	49,993	30,712	15,472	H. W. DANFORTH.....	Blenheim.....	P.C.
Kingston.....	71,835	42,523	32,563	16,092	Hon. E. J. BENSON.....	Kingston.....	Lib.
Lambton-Kent.....	43,235	24,523	19,914	10,303	M. T. MCCUTCHEON.....	Florence.....	P.C.
Lambton West.....	48,422	42,976	32,643	12,805	W. F. FOY.....	Sarnia.....	Lib.

¹ Resigned Apr. 6, 1967; see Table 11 for by-election.
Resigned Oct. 1, 1967; see Appendix for by-election.

² Resigned Apr. 4, 1967; see Table 11 for by-election.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-seventh General Election, Nov. 8, 1965 and Revised to Sept. 30, 1967—continued

Province and Electoral District	Population, Census 1961	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Ontario—concluded							
Lanark.....	40,081	22,511	17,886	9,784	D. M. CODE.....	Smiths Falls.....	P.C.
Leeds.....	47,121	27,466	21,580	10,365	J. MATHESON.....	Brockville.....	Lib.
Lincoln.....	126,674	75,678	55,957	25,820	J.C. McNULTY.....	St. Catharines.....	Lib.
London.....	73,970	41,756	30,439	13,763	J. IRVINE.....	London.....	P.C.
Middlesex East.....	101,721	63,281	47,510	17,675	J. LIND.....	London.....	Lib.
Middlesex West.....	45,731	26,725	21,425	9,768	W. H. A. THOMAS.....	Strathroy.....	P.C.
Niagara Falls.....	78,010	43,487	30,078	17,794	HON. JUDY LAMARSH.....	Niagara Falls.....	Lib.
Nickel Belt.....	76,307	35,766	26,555	10,863	N. FAWCETT.....	Capreol.....	N.D.P.
Nipissing.....	68,173	35,179	24,579	14,025	C. LEGAULT.....	Sturgeon Falls.....	Lib.
Norfolk.....	50,475	27,278	21,669	9,833	J. M. ROXBURGH.....	Simcoe.....	Lib.
Northumberland.....	42,768	25,314	22,095	10,876	HON. G. HEES.....	Cobourg.....	P.C.
Ontario.....	125,784	78,795	61,195	22,752	HON. M. STARR.....	Oshawa.....	P.C.
Ottawa East.....	51,828	29,280	21,975	15,107	J.-T. RICHARD.....	Ottawa.....	Lib.
Ottawa West.....	67,131	35,635	26,444	14,945	HON. G. MCLEIRATH.....	Ottawa.....	P.C.
Oxford.....	70,499	39,687	32,015	17,657	W. NESBITT.....	Woodstock.....	Lib.
Parry Sound-Muskoka.....	55,898	31,769	22,652	11,777	G. AIKEN.....	Gravenhurst.....	P.C.
Peel.....	111,575	80,614	61,636	29,057	B. S. BEER.....	Brampton.....	Lib.
Perth.....	55,816	33,280	24,833	13,558	HON. J. W. MONTEITH.....	Stratford.....	P.C.
Peterborough.....	67,969	39,989	33,540	12,335	H. FAULKNER.....	Lakefield.....	Lib.
Port Arthur.....	87,977	44,998	35,340	14,706	R. ANDRAS.....	Port Arthur.....	Lib.
Prince Edward-Lennox.....	37,758	21,378	16,561	9,064	D. ALKENBRACK.....	Napanee.....	P.C.
Renfrew North.....	55,616	25,871	21,717	10,882	L. D. HOPKINS.....	Petawawa.....	Lib.
Renfrew South.....	35,929	19,837	17,140	8,932	HON. J. GREENE.....	Amptown.....	Lib.
Russell.....	124,368	68,869	52,375	28,997	P. TARDIF.....	Ottawa.....	Lib.
Simcoe East.....	58,773	31,373	24,697	11,648	P. B. RYNDAR.....	Orillia.....	P.C.
Simcoe North.....	46,877	27,502	21,039	9,513	H. SMITH.....	Barrie.....	P.C.
Storment.....	57,867	31,025	24,404	13,530	HON. L. LAMOREUX.....	Cornwall.....	Lib.
Sudbury.....	73,945	39,163	29,898	13,247	R. MITCHELL.....	Sudbury.....	Lib.
Timiskaming.....	50,654	25,142	19,821	9,986	A. PETERS.....	New Liskeard.....	N.D.P.
Timmins.....	48,956	24,584	19,491	10,071	M. MARTIN.....	Timmins.....	N.D.P.
Victoria.....	48,789	29,024	23,529	11,282	W. C. SCOTT.....	Kinmount.....	P.C.
Waterloo North.....	115,579	74,097	53,970	24,733	K. R. HYMMEN.....	Kitchener.....	Lib.
Waterloo South.....	61,175	37,292	29,138	13,337	M. SALTSMAN.....	Galt.....	N.D.P.
Welland.....	86,731	49,138	36,027	17,889	D. R. TOLMIE.....	Welland.....	Lib.
Wellington-Huron.....	32,638	18,118	14,610	7,792	M. HOWE.....	Arthur.....	P.C.
Wellington South.....	59,150	35,102	29,323	11,264	A. D. HALES.....	Guelph.....	P.C.
Wentworth.....	99,940	61,530	48,249	17,746	J. MORISON.....	Dundas.....	Lib.
York Centre.....	190,405	122,055	90,578	41,553	J. E. WALKER.....	Downsview.....	Lib.
York East.....	89,709	62,896	47,840	18,840	S. OTTO.....	Toronto.....	Lib.
York-Humber.....	90,618	56,043	41,984	17,172	R. B. COWAN.....	Toronto.....	Lib.
York North.....	100,874	59,708	45,516	18,207	J. ADDISON.....	King.....	Lib.
York-Scarborough.....	267,252	190,698	148,608	58,501	R. STANBURY.....	Willowdale.....	Lib.
York South.....	114,887	61,883	46,776	21,693	D. LEWIS.....	Toronto.....	N.D.P.
York West.....	162,604	117,925	92,469	43,807	HON. R. H. WINTERS.....	Toronto.....	Lib.
City of Toronto—							
Broadview.....	56,982	29,256	20,973	8,232	J. GILBERT.....	Toronto.....	N.D.P.
Danforth.....	88,988	51,709	39,913	19,320	R. SCOTT.....	Scarborough.....	N.D.P.
Davenport.....	64,520	23,987	17,256	9,887	HON. W. L. GORDON.....	Toronto.....	Lib.
Eglinton.....	70,470	50,224	41,519	18,719	HON. M. SHARP.....	Toronto.....	Lib.
Greenwood.....	58,548	29,853	22,344	10,590	A. BREVIN.....	Toronto.....	N.D.P.
High Park.....	60,630	30,450	22,819	11,171	A. J. P. CAMERON.....	Toronto.....	Lib.
Parkdale.....	59,145	33,876	23,613	11,974	S. HADZAS.....	Toronto.....	Lib.
Rosedale.....	56,015	30,835	22,117	9,757	D. S. MACDONALD.....	Toronto.....	Lib.
St. Paul's.....	53,155	36,548	25,521	12,251	I. G. WAHN.....	Toronto.....	Lib.
Spadina.....	83,424	34,583	23,552	12,005	P. RYAN.....	Toronto.....	Lib.
Trinity.....	64,902	24,152	17,349	9,897	HON. P. HELLYER.....	Toronto.....	Lib.
Manitoba—							
(14 members)							
Brandon-Souris.....	65,036	37,233	28,717	15,554	HON. W. G. DINSDALE.....	Brandon.....	P.C.
Churchill.....	54,952	29,339	21,320	10,773	R. SIMPSON.....	Flin Flon.....	P.C.
Dauphin.....	40,179	22,003	16,535	6,545	R. E. FORBES.....	Dauphin.....	P.C.
Lisgar.....	46,397	24,474	17,572	8,988	G. MUIR.....	Roland.....	P.C.
Marquette.....	47,865	24,536	20,509	10,613	N. MANDZIUK.....	Oakburn.....	P.C.
Portage-Neepawa.....	57,958	35,095	25,410	13,043	S. J. ENNS.....	Portage la Prairie.....	P.C.

¹ Died Jan. 4, 1967; see Table 11 for by-election.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-seventh General Election, Nov. 8, 1965 and Revised to Sept. 30, 1967—continued

Province and Electoral District	Population, Census 1961	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Manitoba—concluded							
Provencher.....	40,314	20,565	13,545	6,470	W. H. JORGENSEN.....	Morris.....	P.C.
St. Boniface.....	76,524	46,120	33,584	13,941	HON. R. TELLET.....	St. Boniface.....	Lib.
Selkirk.....	50,320	26,195	18,597	8,573	E. STEFANSON.....	Gimli.....	P.C.
Springfield.....	48,343	27,379	20,599	8,001	E. SCHREYER.....	East St. Paul.....	N.D.P.
Winnipeg North.....	116,266	66,548	48,652	22,950	D. ORLIKOW.....	West Kildonan.....	N.D.P.
Winnipeg North Centre.....	78,615	39,517	25,821	14,056	S. H. KNOWLES.....	Winnipeg.....	N.D.P.
Winnipeg South.....	113,629	68,738	54,669	23,576	L. R. SHERMAN.....	Winnipeg.....	P.C.
Winnipeg South Centre.....	85,288	50,186	36,832	15,296	HON. G. CHURCHILL.....	Winnipeg.....	P.C.
Saskatchewan—							
(17 members)							
Assiniboia.....	45,553	23,836	20,567	7,913	L. WATSON.....	Avonlea.....	P.C.
Humoldt-Melfort-Tisdale.....	48,243	25,510	20,665	11,256	R. RAPP.....	Spalding.....	P.C.
Kindersley.....	47,960	24,359	20,609	9,223	R. W. CANTELON.....	Unity.....	P.C.
Mackenzie.....	44,479	22,380	17,184	9,760	S. J. KORCHINSKI.....	Rama.....	P.C.
Meadow Lake.....	37,937	17,801	12,893	6,919	A. C. CADIEU.....	Spiritwood.....	P.C.
Melville.....	40,255	23,632	19,103	8,843	J. N. ORMISTON.....	Cupar.....	P.C.
Moose Jaw-Lake Centre.....	83,960	51,060	40,107	18,087	J. E. PASCOE.....	Moose Jaw.....	P.C.
Moose Mountain.....	44,404	23,560	19,170	8,781	R. R. SOUTHAM.....	Gainsborough.....	P.C.
Prince Albert.....	58,493	31,329	24,183	15,635	Rt. Hon. J. G. DIEFENBAKER* ¹	Prince Albert.....	P.C.
Qu'Appelle.....	39,362	21,041	16,767	9,579	HON. A. HAMILTON.....	Indian Head.....	P.C.
Regina City.....	89,293	48,936	38,517	15,437	K. MORE.....	Regina.....	P.C.
Rosetown-Biggar.....	47,208	24,888	20,645	8,658	R. D. McLELLAND.....	Loreburn.....	P.C.
Rosethorn.....	46,954	23,785	18,170	10,042	E. NASSERDEN.....	Saskatoon.....	P.C.
Saskatoon.....	95,575	60,689	47,447	21,036	L. BRAND.....	Saskatoon.....	P.C.
Swift Current-Maple Creek.....	56,528	31,157	25,245	11,227	J. McINTOSH.....	Swift Current.....	P.C.
The Battlefords.....	51,613	26,394	21,025	10,297	A. HORNER.....	Blaine Lake.....	P.C.
Yorkton.....	49,364	28,376	22,334	10,561	G. D. CLANCY.....	Raymore.....	P.C.
Alberta—							
(17 members)							
Acadia.....	47,724	24,130	13,979	10,813	J. HORNER.....	Pollockville.....	P.C.
Athabasca.....	59,184	28,622	21,690	11,652	J. BIGG.....	Westlock.....	P.C.
Battle River-Camrose.....	58,655	31,508	24,293	14,015	C. S. SMALLWOOD.....	Irma.....	P.C.
Bow River.....	62,806	33,433	23,885	12,611	E. M. WOOLLIAMS.....	Calgary.....	P.C.
Calgary North.....	134,783	77,284	55,335	23,810	HON. D. S. HARKNESS.....	Calgary.....	P.C.
Calgary South.....	124,248	74,469	53,274	20,640	H. R. BALLARD.....	Calgary.....	P.C.
Edmonton East.....	82,246	45,609	30,509	13,596	W. SKOREYKO.....	Edmonton.....	P.C.
Edmonton-Strathcona.....	121,124	71,989	55,646	21,004	T. NUGENT.....	Edmonton.....	P.C.
Edmonton West.....	150,257	85,373	62,457	30,548	HON. M. LAMBERT.....	Edmonton.....	P.C.
Jasper-Edson.....	70,088	35,127	25,492	14,909	H. M. HORNER ²	Barhead.....	P.C.
Lethbridge.....	69,175	32,522	24,877	10,147	D. R. GUNDLOCK.....	Lethbridge.....	P.C.
Macleod.....	50,966	25,291	19,722	8,706	L. E. KINDT.....	Nanton.....	P.C.
Medicine Hat.....	63,450	33,109	25,336	12,997	H. A. OLSON.....	Medicine Hat.....	S.C. ³
Peace River.....	75,811	40,610	27,874	14,960	G. BALDWIN.....	Peace River.....	P.C.
Red Deer.....	63,205	34,511	26,370	12,933	R. N. THOMPSON*.....	Red Deer.....	S.C.
Vegreville.....	42,798	23,109	17,524	12,163	F. J. W. FANE.....	Vegreville.....	P.C.
Wetaskiwin.....	55,424	28,751	21,607	10,754	H. A. MOORE.....	Wetaskiwin.....	P.C.
British Columbia—							
(22 members)							
Burnaby-Coquitlam... ..	90,941	55,653	42,974	22,553	T. C. DOUGLAS*.....	Burnaby.....	N.D.P.
Burnaby-Richmond... ..	96,835	56,709	44,451	19,758	R. W. PRITTE.....	Burnaby.....	N.D.P.
Cariboo.....	82,173	48,986	33,067	12,344	B. R. LEBOE.....	Prince George.....	S.C.
Coast-Capilano.....	113,734	71,890	54,721	26,472	J. DAVIS.....	West Vancouver.....	Lib.
Comox-Alberni.....	71,886	41,616	29,937	13,393	T. S. BARNETT.....	Alberni.....	N.D.P.
Esquimalt-Saanich... ..	74,979	48,209	38,514	14,787	G. L. CHATTERTON.....	Saanich.....	P.C.
Fraser Valley.....	88,518	46,956	36,341	12,611	A. B. PATTERSON.....	Abbotsford.....	S.C.
Kanloops.....	73,446	42,240	31,559	11,731	HON. E. D. FULTON.....	Kamloops.....	P.C.
Kootenay East.....	41,449	22,473	17,723	5,574	J. BYRNE.....	Kimberley.....	Lib.

¹ Succeeded as leader of the Progressive Conservative Party by Hon. Robert L. Stanfield, Sept. 9, 1967.

² Resigned May 9, 1967; see Appendix for by-election.

³ Lib. from Sept. 25, 1967.

10.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-seventh General Election, Nov. 8, 1965 and Revised to Sept. 30, 1967—concluded

Province and Electoral District	Population, Census 1961	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
British Columbia—concluded							
Kootenay West.....	57,136	31,675	21,870	8,481	H. W. HERRIDGE.....	Nakusp.....	N.D.P.
Nanaimo-Cowichan-The Islands.....	59,786	36,349	27,371	12,337	C. CAMERON.....	Lantzville.....	N.D.P.
New Westminster.....	142,803	84,183	63,661	27,574	B. MATHER.....	Ladner.....	N.D.P.
Okanagan Boundary.....	66,180	39,767	30,971	9,499	D. V. PUGH.....	Oliver.....	P.C.
Okanagan-Revelstoke.....	36,009	20,677	15,758	4,294	H. JOHNSTON.....	Salmon Arm.....	S.C.
Skeena.....	58,740	29,925	21,592	11,477	F. HOWARD.....	Terrace.....	N.D.P.
Vancouver-Burrard.....	60,347	40,005	28,186	10,807	R. BASFORD.....	Vancouver.....	Lib.
Vancouver Centre.....	44,920	34,615	22,793	9,008	HON. J. R. NICHOLSON.....	Vancouver.....	Lib.
Vancouver East.....	59,496	31,080	21,078	11,854	H. E. WINCH.....	Vancouver.....	N.D.P.
Vancouver-Kingsway.....	67,228	38,224	28,245	13,730	GRACE MACINNIS.....	Vancouver.....	N.D.P.
Vancouver-Quadra.....	69,981	41,068	33,414	12,895	G. DEACHMAN.....	Vancouver.....	Lib.
Vancouver South.....	86,069	55,548	43,163	18,669	HON. A. LAING.....	Vancouver.....	Lib.
Victoria.....	86,426	54,215	44,049	13,930	D. W. GROOS.....	Victoria.....	Lib.
Yukon Territory—(1 member)							
Yukon.....	14,628	6,660	5,760	3,134	ERIK NIELSEN.....	Whitehorse.....	P.C.
Northwest Territories—(1 member)							
Northwest Territories.....	22,998	12,326	9,403	5,194	R. J. ORANGE.....	Yellowknife.....	Lib.

11.—By-elections from the Date of the Twenty-seventh General Election, Nov. 8, 1965 to Sept. 30, 1967¹

Electoral District and Province	Date of By-election	Name of New Member	P.O. Address	Party Affiliation
Burin-Burgeo, Nfld.....	Sept. 19, 1966	DON JAMIESON.....	Swift Current.....	Lib.
Grand Falls-White Bay-Labrador, Nfld.....	Sept. 19, 1966	ANDREW CHATWOOD.....	Wabush.....	Lib.
Nicolet-Yamaska, Que.....	Sept. 19, 1966	FLORIAN CÔTÉ.....	Ste. Brigitte des Saults.....	Lib.
Hull, Que.....	May 29, 1967	PIERRE CARON.....	Hull.....	Lib.
Richelieu-Verchères, Que.....	May 29, 1967	JACQUES-R. TREMBLAY.....	Sorel.....	Lib.
Outremont-Saint-Jean Que.....	May 29, 1967	AURÉLIE NOËL.....	Outremont.....	Lib.
Papineau, Que.....	May 29, 1967	ANDRÉ OUELLET.....	Montreal.....	Lib.
Sudbury, Ont.....	May 29, 1967	BUD GERMA.....	Sudbury.....	N.D.P.

¹ By-elections held between Sept. 30, 1967 and the date of going to press will be carried in an Appendix to this volume.

Indemnities and Allowances.—Members of the Senate and House of Commons receive a sessional allowance at the rate of \$12,000 per annum. In addition, for each session of Parliament, they may be paid travelling expenses between their place of residence or constituency and Ottawa as may be required for the performance of their duties as members of the Senate and House of Commons. Senators receive an annual expense allowance of \$3,000 and members of the House of Commons receive an expense allowance of \$6,000, neither of which is subject to income tax, and is payable quarterly. The member of

the Senate occupying the recognized position as Leader of the Government in the Senate is paid, in addition to his sessional allowance, an annual allowance of \$10,000 and to the member of the Senate occupying the recognized position as Opposition Leader in the Senate there is paid, in addition to his sessional allowance, an annual allowance of \$6,000; but if the Leader of the Government is in receipt of a salary under the Salaries Act the annual allowance is not paid. The remuneration of the Prime Minister is \$25,000 a year and of a Cabinet Minister and the Leader of the Opposition in the House of Commons \$15,000 a year in addition to the sessional and expense allowances each receives as a member of Parliament. The remuneration of a Minister without Portfolio is \$7,500 a year in addition to the sessional and expense allowances, the latter being not taxable. Additional annual allowances of \$4,000 (beyond the above-noted sessional allowance) are provided to each Leader of a Party having a recognized membership of twelve or more persons in the House of Commons other than the Prime Minister and the member occupying the recognized position as Leader of the Opposition in the House of Commons and, likewise, to the Chief Government Whip and to the Chief Opposition Whip in the House of Commons. The Speaker of the Senate and the Speaker of the House of Commons each receives, besides the sessional allowance and expense allowance, a salary of \$9,000 per annum. The Deputy Speaker of the House of Commons receives a salary of \$6,000 per annum. The Speakers of the Senate and the House of Commons are also entitled to \$3,000 in lieu of residence and the Deputy Speaker of the House of Commons an allowance of \$1,500 in lieu of residence; these allowances are not taxable. The Deputy Chairman of Committees receives an annual allowance of \$4,000. Parliamentary Secretaries to the Ministers of the Crown receive an annual allowance of \$4,000 a year, in addition to their sessional and expense allowances. A motor vehicle allowance of \$2,000 is paid to each Minister of the Crown and to the recognized Leader of the Opposition in the House of Commons, and a motor vehicle allowance of \$1,000 is paid to the Speakers of the Senate and of the House of Commons; these allowances are not taxable.

A member of Parliament contributes, by reservation, 6 p.c. of his full sessional indemnity toward his retirement allowance, which is based on five twelfths of the total contributions, paid or elected to be paid; to the widow of an ex-member is paid three fifths of the allowance paid or payable to the ex-member at the time of his death. The maximum allowance payable to an ex-member is \$9,000 per annum and the maximum payable to the widow of an ex-member is \$5,400 per annum.

An Act to make provision for the retirement of members of the Senate (SC 1965, c. 4) entitles a Senator appointed after June 2, 1965 to become a contributor under the provisions of the Members of Parliament Retiring Act. Senators appointed prior to that date and who have not attained the age of 75 years, who elect under the provisions of this Act, are also entitled to become contributors. Under the provisions of the Retirement Act, a Senator contributes, by reservation, 6 p.c. of his sessional indemnity to the Consolidated Revenue Fund. A Senator appointed before June 2, 1965 who (a) within one year of attaining the age of 75 years resigns his place in the Senate or (b) resigns due to some permanent infirmity disabling him from performing his duties in the Senate, may be granted an annuity equal to two thirds of his sessional indemnity for life. The widow of a person granted such an annuity may receive an annuity equal to one third of the annuity to the ex-member of the Senate.

Every former Prime Minister who held office for four years will receive from the Consolidated Revenue Fund an allowance of two thirds of the annual salary provided for Prime Ministers under the Salaries Act, the allowance to commence when the former Prime Minister ceases to hold office, or attains the age of 70 years, whichever is the later, and to continue during his lifetime. The widow of a Prime Minister will receive an annual payment of one third of the allowance that was being paid or that would have been paid to her husband, where he dies without receiving the allowance, such allowance to commence immediately after the death of her husband and to continue during her natural life or until her remarriage. None of these allowances is payable while the recipient is a Senator or a member of the House of Commons.

The Federal Franchise.—The present federal franchise laws are contained in the Canada Elections Act (SC 1960, c. 39). The franchise is conferred upon all Canadian citizens or British subjects, men and women, who have attained the age of 21 years, are ordinarily resident in the electoral district on the date of the issue of the writ ordering an election and, in the case of British subjects other than Canadian citizens, have been ordinarily resident in Canada for twelve months prior to polling day at such election. Persons denied the right to vote are:—

- (1) the Chief Electoral Officer and the Assistant Chief Electoral Officer;
- (2) judges appointed by the Governor General in Council;
- (3) the returning officer for each electoral district;
- (4) persons undergoing punishment as inmates of any penal institution for the commission of any offence;
- (5) persons restrained of their liberty or deprived of the management of their property by reason of mental disease; and
- (6) persons disqualified under any law relating to the disqualification of electors for corrupt and illegal practices.

Prior to July 1, 1960, the list of persons denied the right to vote included "Indians ordinarily resident on an Indian reserve who were not members of His Majesty's Forces in World Wars I or II or who did not execute a waiver of exemption under the Indian Act from taxation on and in respect of personal property". Legislation proclaimed on the above-mentioned date confers upon all Indians who have attained the age of 21 years the right to vote at federal elections, without taking from them any of the rights and privileges to which they are entitled under the Indian Act. The Eskimos who are Canadian citizens possess the right to vote in federal elections, and the assumption of that right in the far-flung communities of the Canadian Far North has grown with Government establishment of electoral districts and polling facilities.

The Canadian Forces Voting Rules set out in Schedule II to the Canada Elections Act prescribe voting procedure for members of the Armed Forces of Canada and also for veterans in receipt of treatment or domiciliary care in certain institutions.

12.—Voters on the Lists and Votes Polled at the Federal General Elections of 1962, 1963 and 1965

NOTE.—Corresponding statistics for the General Elections of 1911, 1917, 1921 and 1925 are given in the 1926 Year Book, p. 82; those for 1926 in the 1945 edition, p. 66; those for 1930 and 1935 in the 1948-49 edition, p. 94; those for 1940 in the 1956 edition, p. 81; those for 1945 in the 1957-58 edition, p. 57; those for 1949, 1953 and 1957 in the 1962 edition, p. 71; and those for 1958 in the 1966 edition, p. 90.

Province or Territory	Voters on the Lists			Votes Polled		
	1962	1963	1965	1962	1963	1965
	No.	No.	No.	No.	No.	No.
Newfoundland.....	215,565	221,321	226,082	155,263	152,175	148,392
Prince Edward Island.....	56,542	57,029	56,484	73,509 ¹	69,486 ¹	72,006 ¹
Nova Scotia.....	398,161	401,874	401,521	423,556 ²	419,352 ²	420,146 ²
New Brunswick.....	302,313	304,732	304,734	252,053	245,557	244,184
Quebec.....	2,728,191	2,807,634	2,933,031	2,117,644	2,143,246	2,073,314
Ontario.....	3,397,647	3,455,363	3,609,895	2,719,020	2,799,870	2,770,222
Manitoba.....	508,920	516,525	517,928	393,023	401,870	382,362
Saskatchewan.....	502,495	505,551	508,733	426,426	419,973	404,631
Alberta.....	680,253	700,920	725,447	505,752	552,164	534,870
British Columbia.....	891,686	921,074	972,063	691,930	740,229	731,438
Yukon Territory ³	6,762	6,878	6,660	5,978	6,051	5,760
Northwest Territories ⁴	11,790	11,856	12,326	8,502	8,663	9,403
Totals.....	9,700,325	9,910,757	10,274,904	7,772,656	7,958,636	7,796,728

¹ Each voter in the double-member constituency of Queens County, P.E.I., had two votes; in 1965, 26,250 voters on the list cast 44,895 votes.

² Each voter in the double-member constituency of Halifax, N.S., had two votes; in 1965, 124,633 voters on the list cast 184,153 votes.

³ Electoral District of Yukon.

⁴ Electoral District of Mackenzie River in 1962 and Electoral District of Northwest Territories in 1963 and 1965.

1965 Redistribution of Representation in The House of Commons.—The Representation Commissioner Act setting up the office and duties of the Representation Commissioner was given Royal Assent on Dec. 21, 1963. The Electoral Boundaries Readjustment Act providing for the establishment of Electoral Boundaries Commissions to report upon and to provide for the readjustment of the representation of the provinces in the House of Commons in accordance with the findings of the 1961 Census of Population was given Royal Assent on Nov. 20, 1964.

Pursuant to Sect. 11 of the Electoral Boundaries Readjustment Act, the Dominion Statistician sent to the Representation Commissioner a certified return showing the population of Canada and of each of the provinces and the population of Canada by electoral districts as ascertained by the 1961 Census. The Representation Commissioner calculated the number of members of the House of Commons to be assigned to each of the provinces subject and according to the provisions of Sect. 51 of the British North America Act, 1867, and the rules provided therein. He then caused a statement to be published in the *Canada Gazette* of Nov. 28, 1964, setting forth the following results:—

Eighty-eight members of the House of Commons shall be elected for the Province of Ontario, seventy-four for the Province of Quebec, eleven for the Province of Nova Scotia, ten for the Province of New Brunswick, thirteen for the Province of Manitoba, twenty-three for the Province of British Columbia, four for the Province of Prince Edward Island, thirteen for the Province of Saskatchewan, nineteen for the Province of Alberta and seven for the Province of Newfoundland.

The Governor General, by proclamation published in the *Canada Gazette*, established an Electoral Boundaries Commission for each province. It was the task of each Commission to prepare, with all reasonable dispatch, a report setting forth its recommendations concerning the division of its particular province into electoral districts and the recommendations concerning the description of the boundaries of each such district and the representation and name to be given thereto. A copy of the 1961 Census return was sent to the chairman of each Commission immediately after its members were appointed.

Pursuant to Sect. 8 of the Representation Commissioner Act, maps were prepared in the office of the Representation Commissioner showing the distribution of population in each province and setting out alternative proposals respecting the boundaries of electoral districts in each province; these maps were then supplied to the respective Commissions. The Commissions complied with the procedure of the Electoral Boundaries Act and completed their reports within the time prescribed, which was one year. Two certified copies of each report were received by the Representation Commissioner; as required by Sect. 19(1) of that Act, one of these copies was transmitted to the Speaker of the House of Commons, who in turn laid it before the House of Commons.

Then followed a period of thirty days in which objections in writing, signed by no fewer than ten members of the House of Commons, were filed with the Speaker specifying the provisions of the report objected to and the reasons for the objection. A further period of 15 days was set aside in which the House of Commons was to consider the matter of the objections: this period was increased to 45 sitting days by an Act, assented to on Feb. 23, 1966, entitled "An Act to extend the time for consideration of objections pursuant to section 20 of the Electoral Boundaries Readjustment Act with respect to the reports of commissions established for the decennial census taken in the year 1961".

Several objections were filed with the Speaker, the motions were taken up and considered and the reports referred back to the Representation Commissioner by the Speaker and then to the Commissions. On the expiration of a 30-day period for that purpose, the Commissions returned their reports with or without amendment, through the Representation Commissioner to the Speaker. Then a draft representation order was prepared by the Representation Commissioner to be transmitted to the Secretary of State. This order specified the number of members of the House of Commons who shall be elected for each of the provinces as calculated by the Representation Commissioner and, dividing each of the provinces into electoral districts, described the boundaries of each such district and specified the representation and name given thereto, in accordance with the recom-

mendations contained in the reports. The Governor in Council, by proclamation of June 16, 1966, declared the draft representation order to be in force, effective upon the dissolution of the then-existing Parliament.

At the subsequent election, according to the representation order set out in the Schedule to the Proclamation, 88 members of the House of Commons shall be elected for the Province of Ontario, 74 for the Province of Quebec, 11 for the Province of Nova Scotia, 10 for the Province of New Brunswick, 13 for the Province of Manitoba, 23 for the Province of British Columbia, four for the Province of Prince Edward Island, 13 for the Province of Saskatchewan, 19 for the Province of Alberta and seven for the Province of Newfoundland. In addition, one member each will be elected for the Yukon Territory and the Northwest Territories, making a total representation of 264 in the House of Commons.

13.—Federal Electoral Districts, according to the 1965 Redistribution, with their 1961 Census Populations

Electoral District	Population (1961 Census)	Electoral District	Population (1961 Census)
Newfoundland	457,853	Quebec—continued	
1 Bonavista-Trinity-Conception.....	67,599	10 Chambly.....	71,714
2 Burin-Burgeo.....	51,019	11 Champlain.....	69,014
3 Gander-Twillingate.....	68,181	12 Charlevoix.....	57,393
4 Grand Falls-White Bay-Labrador.....	52,787	13 Chicoutimi.....	76,645
5 Humber-St. George's-St. Barbe.....	72,218	14 Compton.....	67,152
6 St. John's East.....	76,970	15 Dollard.....	77,966
7 St. John's West.....	69,079	16 Drummond.....	69,837
		17 Duvernay.....	60,355
Prince Edward Island	104,629	18 Frontenac.....	68,382
1 Cardigan.....	23,081	19 Gamelin.....	77,750
2 Egmont.....	29,672	20 Gaspé.....	57,095
3 Hillsborough.....	30,050	21 Gatineau.....	64,232
4 Malpeque.....	21,826	22 Hochelaga.....	76,765
		23 Hull.....	75,968
Nova Scotia	737,007	24 Joliette.....	70,660
1 Annapolis Valley.....	70,340	25 Kamouraska.....	67,668
2 Cape Breton-East Richmond.....	66,826	26 Labelle.....	69,120
3 Cape Breton Highlands-Canso.....	57,816	27 Lachine.....	79,933
4 Cape Breton-The Sydneys.....	68,112	28 Lac-Saint-Jean.....	57,754
5 Central Nova.....	60,097	29 Lafontaine.....	77,098
6 Cumberland-Colchester North.....	65,734	30 Langelier.....	76,916
7 Dartmouth-Halifax East.....	75,050	31 Lapointe.....	71,793
8 Halifax.....	78,344	32 Laprairie.....	73,867
9 Halifax-East Hants.....	73,366	33 LaSalle.....	78,804
10 South Shore.....	61,185	34 Laurier.....	76,915
11 South Western Nova.....	60,137	35 Laval.....	64,386
		36 Lévis.....	69,997
New Brunswick	597,936	37 Longueuil.....	75,922
1 Carleton-Charlotte.....	56,554	38 Lotbinière.....	67,334
2 Fundy-Royal.....	58,160	39 Louis-Hébert.....	76,714
3 Gloucester.....	57,076	40 Maisonneuve.....	76,479
4 Madawaska-Victoria.....	58,695	41 Manicouagan.....	56,001
5 Moncton.....	69,806	42 Matane.....	58,202
6 Northumberland-Miramichi.....	53,055	43 Mercier.....	74,204
7 Restigouche.....	50,240	44 Missisquoi.....	69,188
8 Saint John-Lancaster.....	73,467	45 Montmorency.....	75,568
9 Westmorland-Kent.....	54,363	46 Mount Royal.....	77,800
10 York-Sunbury.....	66,520	47 Notre-Dame-de-Grâce.....	79,605
		48 Outremont.....	78,950
Quebec	5,259,211	49 Papineau.....	78,573
1 Abitibi.....	55,733	50 Pontiac.....	59,874
2 Abitibi.....	77,791	51 Portneuf.....	76,208
3 Argenteuil.....	66,734	52 Québec-Est.....	78,802
4 Beauce.....	68,654	53 Richelieu.....	69,413
5 Beauharnois.....	70,017	54 Richmond.....	66,946
6 Bellechasse.....	69,075	55 Rimouski.....	71,614
7 Berthier.....	62,256	56 Roberval.....	56,234
8 Bonaventure.....	55,441	57 Saint-Denis.....	77,856
9 Bourassa.....	77,316	58 Saint-Henri.....	81,690
		59 Saint-Hyacinthe.....	71,014
		60 Saint-Jacques.....	77,594
		61 Saint-Jean.....	71,817
		62 Sainte-Marie.....	76,240

13.—Federal Electoral Districts, according to the 1965 Redistribution, with their 1961 Census Populations—continued

Electoral District	Population (1961 Census)	Electoral District	Population (1961 Census)
Quebec—concluded		Ontario—concluded	
63 Saint-Maurice.....	75,279	58 Prince Edward-Hastings.....	69,692
64 Saint-Michel.....	78,811	59 Renfrew North.....	60,313
65 Shefford.....	69,551	60 Rosedale.....	77,814
66 Sherbrooke.....	77,885	61 Sarnia.....	72,534
67 Témiscamingue.....	59,794	62 Sault Ste. Marie.....	65,560
68 Témiscouata.....	67,187	63 St. Catharines.....	79,689
69 Terrebonne.....	70,270	64 St. Paul's.....	70,092
70 Trois-Rivières.....	87,432	65 Scarborough East.....	79,426
71 Vaudreuil.....	71,599	66 Scarborough West.....	80,018
72 Verdun.....	78,317	67 Simcoe North.....	77,595
73 Villeneuve.....	56,652	68 Spadina.....	83,801
74 Westmount.....	78,396	69 Stormont-Dundas.....	68,233
		70 Sudbury.....	83,820
Ontario.....	6,236,092	71 Thunder Bay.....	54,515
1 Algoma.....	57,038	72 Timiskaming.....	55,132
2 Brant.....	84,585	73 Timmins.....	55,091
3 Broadview.....	76,419	74 Trinity.....	80,208
4 Bruce.....	57,080	75 Victoria-Haliburton.....	54,595
5 Cochrane.....	53,608	76 Waterloo.....	80,329
6 Davenport.....	82,507	77 Welland.....	74,049
7 Don Valley.....	80,925	78 Wellington.....	57,183
8 Eglinton.....	79,415	79 Wellington-Grey.....	63,988
9 Elgin.....	62,862	80 Windsor-Walkerville.....	80,337
10 Essex.....	69,525	81 Windsor West.....	78,741
11 Etobicoke.....	79,350	82 York Centre.....	78,342
12 Fort William.....	54,185	83 York East.....	79,741
13 Frontenac-Lennox and Addington.....	55,638	84 York North.....	77,589
14 Glengarry-Prescott.....	61,857	85 York-Scarborough.....	80,916
15 Greenwood.....	82,099	86 York-Simcoe.....	71,699
16 Grenville-Carleton.....	64,408	87 York South.....	81,250
17 Grey-Simcoe.....	60,681	88 York West.....	79,411
18 Halton.....	72,524		
19 Halton-Wentworth.....	75,785	Manitoba.....	921,686
20 Hamilton East.....	79,862	1 Brandon-Souris.....	62,224
21 Hamilton Mountain.....	79,174	2 Churchill.....	55,542
22 Hamilton-Wentworth.....	77,993	3 Dauphin.....	59,667
23 Hamilton West.....	79,720	4 Lisgar.....	63,138
24 Hastings.....	60,454	5 Marquette.....	62,258
25 High Park.....	82,099	6 Portage.....	53,720
26 Huron.....	59,001	7 Provencher.....	61,482
27 Kenora-Rainy River.....	54,793	8 St. Boniface.....	80,491
28 Kent-Essex.....	72,168	9 Selkirk.....	84,764
29 Kingston and The Islands.....	71,427	10 Winnipeg North.....	83,594
30 Kitchener.....	74,535	11 Winnipeg North Centre.....	88,381
31 Lakeshore.....	77,873	12 Winnipeg South.....	84,011
32 Lambton-Kent.....	64,696	13 Winnipeg South Centre.....	82,424
33 Lanark and Renfrew.....	55,418		
34 Leeds.....	62,656	Saskatchewan.....	925,181
35 Lincoln.....	69,552	1 Assiniboia.....	66,156
36 London East.....	78,646	2 Battleford-Kindersley.....	69,170
37 London West.....	83,933	3 Mackenzie.....	54,252
38 Middlesex.....	65,422	4 Meadow Lake.....	54,695
39 Niagara Falls.....	78,010	5 Moose Jaw.....	71,452
40 Nickel Belt.....	64,027	6 Prince Albert.....	72,488
41 Nipissing.....	58,587	7 Qu'Appelle-Moose Mountain.....	66,998
42 Norfolk-Haldimand.....	68,041	8 Regina East.....	82,741
43 Northumberland-Durham.....	62,912	9 Regina-Lake Centre.....	83,574
44 Ontario.....	56,143	10 Saskatoon-Biggar.....	82,472
45 Oshawa-Whitby.....	79,276	11 Saskatoon-Humboldt.....	83,536
46 Ottawa-Carleton.....	74,393	12 Swift Current-Maple Creek.....	66,514
47 Ottawa Centre.....	80,278	13 Yorkton-Melville.....	71,133
48 Ottawa East.....	81,958		
49 Ottawa West.....	81,302	Alberta.....	1,331,944
50 Oxford.....	71,169	1 Athabasca.....	54,336
51 Parkdale.....	79,452	2 Battle River.....	61,553
52 Parry Sound-Muskoka.....	56,337	3 Calgary Centre.....	81,724
53 Peel-Dufferin.....	65,050	4 Calgary North.....	82,611
54 Peel South.....	74,875	5 Calgary South.....	82,671
55 Perth.....	64,677	6 Crowfoot.....	59,100
56 Peterborough.....	73,804		
57 Port Arthur.....	54,185		

13.—Federal Electoral Districts, according to the 1965 Redistribution, with their 1961 Census Populations—concluded

Electoral District	Population (1961 Census)	Electoral District	Population (1961 Census)
Alberta—concluded		British Columbia—concluded	
7 Edmonton Centre.....	82,836	7 Fraser Valley East.....	65,950
8 Edmonton East.....	82,727	8 Fraser Valley West.....	69,680
9 Edmonton-Strathcona.....	82,145	9 Kamloops-Cariboo.....	64,095
10 Edmonton West.....	82,420	10 Kootenay West.....	64,458
11 Lethbridge.....	70,786	11 Nanaimo-Cowichan-The Islands.....	70,246
12 Medicine Hat.....	65,288	12 New Westminster.....	75,637
13 Palliser.....	65,652	13 Okanagan Boundary.....	69,112
14 Peace River.....	54,169	14 Okanagan-Kootenay.....	67,183
15 Pembina.....	67,306	15 Prince George-Peace River.....	63,092
16 Red Deer.....	68,737	16 Skeena.....	59,020
17 Rocky Mountain.....	57,810	17 Surrey.....	73,468
18 Vegreville.....	65,012	18 Vancouver Centre.....	78,665
19 Wetaskiwin.....	65,061	19 Vancouver East.....	77,780
British Columbia.....	1,629,082	20 Vancouver Kingsway.....	76,658
1 Burnaby-Richmond.....	72,742	21 Vancouver Quadra.....	77,038
2 Burnaby-Seymour.....	74,677	22 Vancouver South.....	77,900
3 Capilano.....	78,059	23 Victoria.....	77,921
4 Coast Chilcotin.....	54,189	Yukon Territory.....	14,628
5 Comox-Alberni.....	64,723	Northwest Territories.....	22,998
6 Esquimalt-Saanich.....	76,789		

Subsection 3.—The Judiciary

The Federal Judiciary

The Parliament of Canada is empowered by Sect. 101 of the British North America Act from time to time to provide for the constitution, maintenance and organization of a general Court of Appeal for Canada and for the establishment of any additional courts for the better administration of the laws of Canada. Under this provision, Parliament has established the Supreme Court of Canada, the Exchequer Court of Canada and certain miscellaneous courts.

Supreme Court of Canada.—This Court, first established in 1875 and now governed by the Supreme Court Act (RSC 1952, c. 259), consists of a chief justice, who is called the Chief Justice of Canada, and eight puisne judges. The chief justice and the puisne judges are appointed by the Governor in Council and they hold office during good behaviour but are removable by the Governor General on address of the Senate and the House of Commons. They cease to hold office upon attaining the age of 75 years. The Court sits at Ottawa and exercises general appellate jurisdiction throughout Canada in civil and criminal cases. The Court is also required to consider and advise upon questions referred to it by the Governor in Council and it may also advise the Senate or the House of Commons on private Bills referred to the Court under any rules or orders of the Senate or of the House of Commons.

Appeals may be brought from any final judgment of the highest court of final resort in a province in any case where the amount or value of the matter in controversy exceeds the sum of \$10,000. An appeal may be brought from any other final judgment with leave of the highest court of final resort in the province; if such court refuses to grant leave, the Supreme Court of Canada may grant leave to appeal. The Supreme Court may grant leave to appeal from any judgment whether final or not. Appeals in respect of indictable offences are regulated by the Criminal Code. Appeals from federal courts are regulated by the statute establishing such courts. The judgment of the Supreme Court of Canada in all cases is final and conclusive.

14.—Chief Justice and Judges of the Supreme Court of Canada, as at Oct. 6, 1967
(In order of seniority)

Name	Date of Appointment
Hon. Mr. JOHN R. CARTWRIGHT, Chief Justice of Canada.....	Sept. 1, 1967 ¹
Hon. Mr. Justice J. H. GERALD FAUTEUX.....	Dec. 23, 1949
Hon. Mr. Justice DOUGLAS CHARLES ABBOTT.....	July 1, 1954
Hon. Mr. Justice RONALD MARTLAND.....	Jan. 15, 1958
Hon. Mr. Justice WILFRED JUDSON.....	Feb. 5, 1958
Hon. Mr. Justice ROLAND A. RITCHIE.....	May 5, 1959
Hon. Mr. Justice EMMETT M. HALL.....	Nov. 23, 1962
Hon. Mr. Justice WISHART FLETT SPENCE.....	May 30, 1963
Hon. Mr. Justice LOUIS-PHILIPPE PIGEON.....	Oct. 6, 1967

¹ First appointed a Judge of the Supreme Court, Dec. 23, 1949.

Exchequer Court of Canada.—The Exchequer Court was first established in 1875 as part of the Supreme Court of Canada but is now a separate court governed by the Exchequer Court Act (RSC 1952, c. 98). The Court consists of a president and six puisne judges who are appointed by the Governor in Council. The president and the puisne judges hold office during good behaviour but may be removed by the Governor General on address of the Senate and the House of Commons. They cease to hold office upon attaining the age of 75 years. The Court sits at Ottawa and also at any other place in Canada where sittings may be fixed by the Court. The jurisdiction of the Court extends to cases where claims are made by or against the Crown in right of Canada. Proceedings against the Crown are taken by petition of right pursuant to the Petition of Right Act (RSC 1952, c. 210).

An appeal lies to the Supreme Court of Canada from any final judgment of the Exchequer Court in which the amount in controversy exceeds \$500; an appeal also lies with leave of the Supreme Court in certain cases where the amount in controversy does not exceed \$500 or where the judgment is not final.

The Exchequer Court also exercises admiralty jurisdiction in Canada. This was first conferred in 1891 by the Admiralty Act (SC 1891, c. 29) and is now governed by the Admiralty Act (RSC 1952, c. 1). Under this statute, the Exchequer Court is continued as a Court of Admiralty. The president and puisne judges of the Exchequer Court exercise admiralty jurisdiction throughout the whole of Canada. In addition, Canada is divided into various admiralty districts; a district judge in admiralty is appointed for each district. Appeals to the Supreme Court of Canada from judgments of the president or the puisne judges are governed by the general appeal provisions in the Exchequer Court Act. Appeals may be taken from a final judgment of a district judge in admiralty either to the Exchequer Court or direct to the Supreme Court of Canada.

Miscellaneous Courts.—*Railway Act.*—The Railway Act, 1903 (RSC 1952, c. 234) established the Board of Railway Commissioners for Canada as a court of record; by the Transport Act, 1938 (RSC 1952, c. 271) the name was changed to the Board of Transport Commissioners for Canada and by the National Transportation Act, 1967 (SC 1966-67, c. 69) to the Canadian Transport Commission. This court exercises jurisdiction with respect to railway matters. The Governor in Council is given jurisdiction to vary any order of the Board and an appeal lies from the Board to the Supreme Court of Canada upon a question of jurisdiction or a question of law.

Bankruptcy Act.—By virtue of Sect. 91(21) of the British North America Act, 1867, Parliament has exclusive legislative jurisdiction in relation to bankruptcy and insolvency. By the Bankruptcy Act (RSC 1952, c. 14) the superior courts of the provinces are constituted bankruptcy courts; original jurisdiction is conferred upon the trial courts and appellate jurisdiction is conferred upon the appeal courts of the provinces.

Income Tax Act and Estate Tax Act.—By the Income Tax Act (RSC 1952, c. 148) the Tax Appeal Board is established consisting of a chairman and not fewer than two or

more than four members with jurisdiction over appeals against income tax assessments. A further appeal may be taken to the Exchequer Court. Under the Estate Tax Act (SC 1958, c. 29) the Tax Appeal Board also has jurisdiction to hear appeals from assessments under that Act.

National Defence Act.—The Court Martial Appeal Court was established in 1959 by an amendment to the National Defence Act (SC 1959, c. 5). The judges of the Court are not fewer than four judges of the Exchequer Court of Canada designated by the Governor in Council and such additional judges of a superior court of criminal jurisdiction as are appointed by the Governor in Council. The Governor in Council designates one of the judges to be president of the Court. The Court hears appeals from courts martial respecting the legality of a finding of guilty on any charge and the legality of a sentence passed by a court martial. An appeal lies from the Court Martial Appeal Court to the Supreme Court of Canada on a question of law only.

Provincial and Territorial Judiciaries*

Certain provisions of the British North America Act govern to some extent the provincial judiciaries. Under Sect. 92(14) the legislature of each province exclusively may make laws in relation to the administration of justice in the province including the constitution, maintenance and organization of provincial courts both of civil and of criminal jurisdiction. Sect. 96 provides that the Governor General shall appoint the judges of the superior, district and county courts in each province, except those of the courts of probate in Nova Scotia and New Brunswick. Sect. 100 provides that the salaries, allowances and pensions of judges of the superior, district and county courts (except the courts of probate in Nova Scotia and New Brunswick) are to be fixed and provided by the Parliament of Canada and these are set out in the Judges Act (RSC 1952, c. 159 and amendments). Under Sect. 99, the judges of the superior courts hold office during good behaviour but are removable by the Governor General on address of the Senate and the House of Commons. They cease to hold office upon attaining the age of 75 years. The tenure of office of district and county court judges is fixed by the Judges Act as being during good behaviour and their residence within the area for which the court is established.

All provinces have minor courts with limited civil and criminal jurisdiction, the presiding officers of which are appointed by provincial authority as, for example, justices of the peace, magistrates and juvenile court judges. Except in Quebec, there are county or district courts of each province with limited jurisdiction varying from \$500 to \$2,500 in amount. Each province has a superior court with virtually unlimited jurisdiction variously known as Court of Queen's Bench, Supreme Court, Superior Court, etc. There is also a Court of Appeal in each province.

The Yukon Act and the Northwest Territories Act each provide for a superior court of record in and for the Territory, called the Territorial Court, and consisting of one or more judges appointed by the Governor in Council. The judges of the Territorial Court of the Yukon Territory are ex officio judges of the Territorial Court of the Northwest Territories and vice versa. There is a Court of Appeal in each of the Territories. Police magistrates and justices of the peace have jurisdiction in minor civil and criminal cases.

Section 2.—Provincial and Territorial Governments†

In each of the provinces, The Queen is represented by a Lieutenant-Governor appointed by the Governor General in Council. The Lieutenant-Governor acts on the advice and with the assistance of his Ministry or Executive Council which is responsible to the Legislature and resigns office under circumstances similar to those described on p. 74 concerning the Federal Government.

* More detailed information concerning provincial judiciaries is given in the 1954 Year Book, pp. 48-55; a reorganization of the Supreme Court of Nova Scotia became effective Aug. 1, 1966.

† Except where indicated, the information given in this Section is brought up to June 30, 1967. Any important changes occurring between that date (or the date given) and the time of going to press will be found in an Appendix to this volume.

The Legislature of each province is unicameral, consisting of the Lieutenant-Governor and a Legislative Assembly, except for the Province of Quebec where there is a Legislative Council as well as a Legislative Assembly. The Legislative Assembly is elected by the people for a statutory term of five years but may be dissolved within that period by the Lieutenant-Governor on the advice of the Premier of the province.

The source of legislative authority of the Provincial Legislatures is the British North America Act, 1867 (Br. Stat. 1867, c. 3 and amendments). Under Sect. 92 of the Act, the Legislature of each province exclusively may make laws in relation to the following matters: amendment of the constitution of the province except as regards the Lieutenant-Governor; direct taxation within the province; borrowing of money on the credit of the province; establishment and tenure of provincial offices and appointment and payment of provincial officers; the management and sale of public lands belonging to the province and of the timber and wood thereon; the establishment, maintenance and management of public and reformatory prisons in and for the province; the establishment, maintenance and management of hospitals, asylums, charities and eleemosynary institutions in and for the province, other than marine hospitals; municipal institutions in the province; shop, saloon, tavern, auctioneer and other licences issued for the raising of provincial or municipal revenue; local works and undertakings other than interprovincial or international lines of ships, railways, canals, telegraphs, etc., or works which, although wholly situated within one province, are declared by the Federal Parliament to be for the general advantage either of Canada or of two or more provinces; the incorporation of companies with provincial objects; the solemnization of marriage in the province; property and civil rights in the province; the administration of justice in the province including the constitution, maintenance and organization of provincial courts both of civil and of criminal jurisdiction including procedure in civil matters in these courts; the imposition of punishment by fine, penalty or imprisonment for enforcing any law of the province relating to any of the aforesaid subjects; generally all matters of a merely local or private nature in the province.

Further, in and for each province the Legislature exclusively may, under Sect. 93, make laws in relation to education subject to certain restrictions relating to the establishment of schools by religious minorities. These powers with similar restrictions were conferred on the more recently admitted provinces on their inclusion in the federation.

The Provincial Legislatures may also make laws under Sect. 95 in relation to agriculture and immigration, subject to any laws of the Parliament of Canada in relation to these subjects.

Provincial Franchise.—Details regarding qualifications and disqualifications of the franchise are contained in the Elections Act of each province. In general, every person, male or female, at a specified age (18 to 21 years) who is a Canadian citizen or (in certain provinces) other British subject, who complies with certain residence requirements in the province and the electoral district of polling and who falls under no statutory disqualifications, is entitled to vote. Voting privileges are given to persons in Prince Edward Island, Quebec and Saskatchewan at the age of 18, in Newfoundland, Alberta and British Columbia at 19 years, and in the remaining provinces at 21 years.

Subsection 1.—Newfoundland

The Government of Newfoundland consists of a Lieutenant-Governor, an Executive Council and a Legislative Assembly. The Legislative Assembly has 42 members elected for a term of five years. The Legislature elected Sept. 8, 1966 is the 34th in the history of Newfoundland and the 6th since Confederation.

Since the date of Confederation, Mar. 31, 1949, the province has had four Lieutenant-Governors: the Hon. Sir Albert Joseph Walsh commissioned Apr. 1, 1949; the Hon. Lt.-Col. Sir Leonard Outerbridge commissioned Sept. 5, 1949; the Hon. Campbell Macpherson commissioned Dec. 16, 1957; and the Hon. Fabian O'Dea commissioned Mar. 1, 1963. The first Ministry, formed on July 13, 1949 under the leadership of the Hon. Joseph R. Smallwood, was still in office on June 30, 1967.

The Premier receives a salary of \$10,000 and the other Cabinet Ministers \$9,000 per annum, plus a sessional indemnity of \$4,333.33 and a travelling and expense allowance of \$2,166.66. Each member of the House of Assembly receives a sessional indemnity of \$4,333.33 plus a travelling and expense allowance of \$2,166.66. An additional allowance of \$3,000 is made to the Leader of the Opposition.

15.—Legislatures of Newfoundland, 1949-67, as at June 30, 1967

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
May 27, 1949	1st.....	4	July 11, 1949	Nov. 3, 1951
Nov. 26, 1951	2nd.....	7	Mar. 11, 1952	Sept. 10, 1956
Oct. 2, 1956	3rd.....	3	Mar. 19, 1957	July 28, 1959
Aug. 20, 1959	4th.....	4	Apr. 20, 1960	Mar. 20, 1962
Nov. 19, 1962	5th.....	4	Mar. 20, 1963	Aug. 17, 1966
Sept. 8, 1966	6th.....	1	Nov. 30, 1966	

¹ Life of Legislature not expired at June 30, 1967.

16.—First Ministry of Newfoundland, as at June 30, 1967

(Party standing at latest General Election, Sept. 8, 1966: 39 Liberal and 3 Progressive Conservative.)

Office	Name	Date of First Appointment	Date of Present Appointment
Premier and Minister of Economic Development.....	Hon. J. R. SMALLWOOD.....	Apr. 1, 1949	Apr. 1, 1949
President of the Council.....	Hon. L. R. CURTIS.....	Apr. 1, 1949	Sept. 8, 1966
Minister of Mines, Agriculture and Resources.....	Hon. C. M. LANE.....	June 12, 1961	June 12, 1967
Minister of Public Works.....	Hon. J. R. CHALKER.....	Apr. 4, 1950	May 1, 1957
Minister without Portfolio.....	Hon. P. J. LEWIS.....	Dec. 15, 1951	Dec. 15, 1951
Minister of Finance and Minister of Community and Social Development.....	Hon. F. W. ROWE.....	May 21, 1952	{Dec. 7, 1964 June 12, 1967
Minister of Supply and Minister of Public Welfare.....	Hon. B. J. ABBOTT.....	May 1, 1957	June 12, 1967
Minister of Health.....	Hon. J. M. McGRATH.....	July 5, 1956	Aug. 7, 1956
Minister of Provincial Affairs.....	Hon. G. A. FRECKER.....	Aug. 26, 1959	Dec. 7, 1964
Minister of Fisheries.....	Hon. AIDAN MALONEY.....	Aug. 8, 1966	June 12, 1967
Minister of Highways.....	Hon. E. S. JONES.....	Dec. 7, 1964	Dec. 7, 1964
Minister of Education.....	Hon. H. R. V. EARLE.....	Dec. 7, 1964	Dec. 7, 1964
Minister of Municipal Affairs and Housing.....	Hon. J. C. CROSBIE.....	July 19, 1966	June 12, 1967
Minister of Justice.....	Hon. T. A. HICKMAN.....	July 28, 1966	Sept. 8, 1966
Minister of Labrador Affairs.....	Hon. C. R. GRANGER.....	Aug. 1, 1966	Sept. 8, 1966
Minister of Labour.....	Hon. W. J. KEOUGH.....	July 29, 1949	June 12, 1967

Subsection 2.—Prince Edward Island

The Government of Prince Edward Island consists of a Lieutenant-Governor, an Executive Council and a Legislative Assembly. Lieutenant-Governors from Confederation (1873) to 1959 are cited in the 1960 Year Book, p. 105; since that date, the position has been held by the Hon. F. W. Hyndman, appointed effective Mar. 31, 1958, followed by the Hon. W. J. MacDonald, appointed effective Aug. 1, 1963.

The General Assembly elected May 30 and July 11, 1966 is the 51st in the history of Prince Edward Island Legislatures and the 26th since Confederation. It has 32 members from 16 electoral districts who may serve for a statutory term of five years. Each district elects one Councillor and one Assembly member. Premiers from Confederation to 1959 are listed in the 1960 Year Book, p. 105. The Hon. Walter R. Shaw was Premier from Sept. 16, 1959 until the present Premier took office following the General Election of May 30, 1966.

The annual salary of the Premier is \$9,000, of a Cabinet Minister \$6,000 and of a Minister without Portfolio \$3,600. A member of the Assembly receives \$2,666.67 for each regular Session attended by him and an additional amount of \$1,333.33, tax-free, for travelling and other expenses incurred in connection with Session attendance and representing his district; the Speaker of the Assembly receives a further additional sum of \$1,000 and an additional amount of \$500, tax-free, for travelling and other expenses incurred in connection with his official duties for each Session; to cover like expenditures the Deputy Speaker receives a further additional sum of \$600 and an additional amount of \$300, tax-free, and the Leader of the Opposition a further additional sum of \$1,666.67 and an additional amount of \$833.33, tax-free. Payment for indemnity for travelling and other expenses incurred by a member of the Legislature, the Speaker, the Deputy Speaker and the Leader of the Opposition accrue from his election to the Legislature and are paid monthly. No sessional indemnity or expenses are paid for any special Session of the Legislature.

17.—Legislatures of Prince Edward Island, 1945-67, as at June 30, 1967

NOTE.—Legislatures from Confederation to 1923 are given in the 1924 Year Book, p. 75; for 1924-35 in the 1938 edition, p. 110; and for 1936-43 in the 1963-64 edition, p. 82.

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Sept. 15, 1943	20th.....	4	Feb. 15, 1944	Oct. 27, 1947
Dec. 11, 1947	21st.....	5	Feb. 24, 1948	Mar. 30, 1951
Apr. 26, 1951	22nd.....	6	Oct. 23, 1951	Apr. 27, 1955
May 25, 1955	23rd.....	4	Feb. 2, 1956	Aug. 3, 1959
Sept. 1, 1959	24th.....	4	Mar. 1, 1960	Nov. 8, 1962
Dec. 10, 1962	25th.....	4	Mar. 14, 1963	Apr. 14, 1966
May 30, 1966	26th.....	1	Nov. 23, 1966	1

¹ Life of Legislature not expired at June 30, 1967.

18.—Twenty-sixth Ministry of Prince Edward Island, as at June 30, 1967

(Party standing at latest General Election, May 30 and July 11, 1966: 17 Liberal and 15 Progressive Conservative.)

Office	Name	Date of First Appointment	Date of Present Appointment
Premier and Attorney and Advocate General	HON. ALEX B. CAMPBELL.....	July 28, 1966	July 28, 1966
Minister of Public Works and Minister of Highways.....	HON. GEORGE J. FERGUSON.....	July 28, 1966	July 28, 1966
Minister of Education and President of the Executive Council.....	HON. GORDON L. BENNETT.....	July 28, 1966	July 28, 1966
Provincial Secretary and Provincial Treasurer.....	HON. T. EARLE HICKEY.....	July 28, 1966	July 28, 1966
Minister of Health and Minister of Municipal Affairs.....	HON. KEIR CLARK.....	June 11, 1953	July 28, 1966
Minister of Industry and Natural Resources and Minister of Fisheries.....	HON. CECIL A. MILLER.....	July 28, 1966	July 28, 1966
Minister of Welfare and Minister of Tourist Development.....	HON. M. LORNE BONNELL.....	June 16, 1955	July 28, 1966
Minister of Labour.....	HON. J. ELMER BLANCHARD.....	July 28, 1966	July 28, 1966
Minister of Agriculture.....	HON. DANIEL J. MACDONALD.....	July 28, 1966	July 28, 1966
Minister without Portfolio.....	HON. ROBERT E. CAMPBELL.....	Nov. 30, 1966	Nov. 30, 1966

Subsection 3.—Nova Scotia

The Government of Nova Scotia consists of a Lieutenant-Governor, an Executive Council and a House of Assembly. Lieutenant-Governors from Confederation (1867) to 1959 are cited in the 1960 Year Book, p. 106; since that date the position has been held by Maj.-Gen. the Hon. E. C. Plow, commissioned to office Sept. 1, 1958, followed by the Hon. H. P. MacKeen, commissioned to office Mar. 1, 1963.

The Legislature has 46 members elected for a maximum term of five years. The Legislature elected May 30, 1967 is the 49th in Nova Scotia's history and the 26th since Confederation. Premiers from Confederation to 1959 are listed in the 1960 Year Book, p. 107; the present Premier assumed office in 1956.

The Premier of the province receives a salary of \$12,000 per annum and each Cabinet Minister a salary of \$10,000 per annum and \$800 per annum as expenses of representation. Each member of the House of Assembly receives a sessional indemnity of \$4,000 and an allowance of \$2,000 for expenses incidental to the discharge of his duties. The Leader of the Opposition receives an allowance of \$7,200 and an \$800 representation allowance in addition to his sessional indemnity.

19.—Legislatures of Nova Scotia, 1945-67, as at June 30, 1967

NOTE.—Legislatures from Confederation to 1923 are given in the 1924 Year Book, p. 76; for 1924-33 in the 1938 edition, p. 111; and for 1933-44 in the 1963-64 edition, p. 83.

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Oct. 23, 1945	20th.....	4	Mar. 14, 1946	Apr. 27, 1949
June 9, 1949	21st.....	4	Mar. 21, 1950	Apr. 14, 1953
May 26, 1953	22nd.....	3	Feb. 24, 1954	Sept. 20, 1956
Oct. 30, 1956	23rd.....	3	Feb. 27, 1957	Apr. 26, 1960
June 7, 1960	24th.....	3	Feb. 8, 1961	Aug. 29, 1963
Oct. 8, 1963	25th.....	5	Feb. 6, 1964	Apr. 20, 1967
May 30, 1967	26th.....	1	1	1

¹Not yet in session by June 30, 1967.

20.—Seventeenth Ministry of Nova Scotia, as at June 30, 1967

(Party standing at latest General Election, May 30, 1967: 40 Progressive Conservative and 6 Liberal.)

Office	Name	Date of First Appointment	Date of Present Appointment
Premier and Minister of Education.....	HON. R. L. STANFIELD ¹	Nov. 20, 1956	Nov. 20, 1956
Minister of Finance and Economics and Chairman of the Nova Scotia Power Commission.....	HON. G. I. SMITH.....	Nov. 20, 1956	{ May 2, 1962 Nov. 20, 1956
Attorney General and Minister of Public Health.....	HON. R. A. DONAHOE.....	Nov. 20, 1956	Nov. 20, 1956
Minister of Public Works and Minister of Highways.....	HON. S. T. PYKE.....	Nov. 20, 1956	{ Nov. 20, 1956 May 2, 1962
Minister of Lands and Forests and Minister of Fisheries.....	HON. E. D. HALIBURTON.....	Nov. 20, 1956	{ July 27, 1959 July 6, 1964
Minister of Labour.....	HON. T. J. McKEOUGH.....	July 6, 1964	Dec. 21, 1966
Minister of Trade and Industry.....	HON. W. S. KENNEDY JONES.....	Apr. 21, 1960	{ July 6, 1964 May 2, 1962
Minister without Portfolio.....	HON. G. A. BURRIDGE.....	Oct. 13, 1960	Oct. 13, 1960
Minister of Mines and Minister in Charge of the Liquor Control Act.....	HON. D. M. SMITH.....	Oct. 13, 1960	{ Dec. 12, 1961 Oct. 13, 1960
Minister without Portfolio.....	HON. D. R. MACLEOD.....	July 6, 1964	July 6, 1964
Minister of Public Welfare.....	HON. J. M. HARDING.....	July 6, 1964	July 6, 1964
Minister of Municipal Affairs.....	HON. D. C. MACNEIL.....	Dec. 21, 1966	Dec. 21, 1966
Minister of Agriculture and Marketing and Minister under the Water Act.....	HON. I. W. AKERLEY.....	July 6, 1964	July 6, 1964
Provincial Secretary and Minister in Charge of Civil Defence.....	HON. G. J. DOUCET.....	July 6, 1964	July 6, 1964

¹ Mr. Stanfield resigned on Sept. 13, 1967 after being chosen as leader of the National Progressive Conservative Party; Hon. G. I. Smith succeeded him as Premier of Nova Scotia.

Subsection 4.—New Brunswick

The Government of New Brunswick has a Lieutenant-Governor, an Executive Council and a House of Assembly. Lieutenant-Governors since Confederation (1867) to 1959 are cited in the 1960 Year Book, p. 108; since that date, the position has been held by the Hon. J. Leonard O'Brien, appointed June 6, 1958, followed by the Hon. John B. McNair, appointed June 9, 1965.

The Legislature elected Apr. 22, 1963 is the 45th in New Brunswick's history and the 18th since Confederation. It has 52 members who are elected for a statutory term of five years. Premiers from Confederation to 1959 are listed in the 1960 Year Book, p. 108; the present Premier assumed office in 1960.

The Premier receives \$20,000 per annum in addition to the salary for any other portfolio he may hold. The salary of each Cabinet Minister is \$12,000 and the amount paid as indemnity to each member of the House of Assembly is \$5,000 plus an additional \$2,500 allowance for expenses. The Leader of the Opposition receives an additional \$8,000 and the Speaker receives an allowance of \$1,000 in addition to the regular indemnity.

21.—Legislatures of New Brunswick, 1945-67, as at June 30, 1967

NOTE.—Legislatures from Confederation to 1923 are given in the 1924 Year Book, p. 77; for 1924-35 in the 1938 edition, p. 112; and for 1936-44 in the 1963-64 edition, p. 84.

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Aug. 28, 1944	13th.....	4	Feb. 20, 1945	May 18, 1948
June 28, 1948	14th.....	4	Mar. 8, 1949	July 16, 1952
Sept. 22, 1952	15th.....	4	Feb. 12, 1953	Apr. 17, 1956
June 18, 1956	16th.....	4	Feb. 21, 1957	May 19, 1960
June 27, 1960	17th.....	3	Nov. 17, 1960	Mar. 12, 1963
Apr. 22, 1963	18th.....	1	May 28, 1963	1

¹ Life of Legislature not expired at June 30, 1967.

22.—Twenty-third Ministry of New Brunswick, as at June 30, 1967¹

(Party standing at latest General Election, Apr. 22, 1963: 31 Liberal and 21 Progressive Conservative.)

Office	Name	Date of First Appointment	Date of Present Appointment
Premier.....	HON. LOUIS J. ROBICHAUD.....	July 12, 1960	July 12, 1960
Attorney General.....	HON. BERNARD A. JEAN.....	Apr. 6, 1966	Apr. 6, 1966
Minister of Finance and Industry.....	HON. L. G. DESBRISAY.....	July 12, 1960	July 12, 1960
Provincial Secretary.....	HON. JOSEPH E. LEBLANC.....	July 12, 1960	May 18, 1965
Minister of Public Works.....	HON. ANDRÉ F. RICHARD.....	July 12, 1960	July 12, 1960
Minister of Lands and Mines.....	HON. WILLIAM R. DUFFIE.....	July 12, 1960	Mar. 22, 1966
Minister of Agriculture.....	HON. J. ADRIEN LEVESQUE.....	July 12, 1960	July 12, 1960
Minister of Health.....	HON. STEPHEN WEYMAN.....	Sept. 15, 1966	Sept. 15, 1966
Minister of Labour.....	HON. KENNETH J. WEBBER.....	July 12, 1960	July 12, 1960
Minister of Education.....	HON. W. W. MELDRUM.....	May 18, 1965	Apr. 6, 1966
Minister of Municipal Affairs.....	HON. L. NORBERT THERIAULT.....	May 18, 1965	May 18, 1965
Minister of Fisheries.....	HON. R. ERNEST RICHARD.....	May 28, 1963	July 8, 1963
Minister of Youth and Welfare.....	HON. JOHN D. MACCALLUM.....	Mar. 22, 1966	Mar. 22, 1966
Chairman, New Brunswick Electric Power Commission.....	HON. H. GRAHAM CROCKER.....	July 12, 1960	May 18, 1965

¹ The Ministry following the General Election of Oct. 23, 1967 is given in an Appendix to this volume.

Subsection 5.—Quebec

The Government of Quebec consists of a Lieutenant-Governor, an Executive Council and a bicameral legislature—the Legislative Council and the Legislative Assembly. Lieutenant-Governors from Confederation (1867) to 1959 are cited in the 1960 Year Book, p. 109; since that date the position has been held by the Hon. Onésime Gagnon, commissioned to office Feb. 14, 1958, followed by the Hon. Paul Comtois, commissioned to office Oct. 6, 1961, and the Hon. Hugues Lapointe, commissioned to office Feb. 22, 1966.

The Legislative Council has 24 members nominated for life by the Lieutenant-Governor in Council. The Legislative Assembly has 108 elected members and, like the Legislative Council, has the power to bring forward Bills relating to civil and administrative matters and to the amendment or repeal of existing laws. A Bill to be approved by the Lieutenant-Governor must have received the assent of both Houses. Only the Legislative Assembly can bring forward a Bill requiring the expenditure of public money. The maximum life of a legislature is five years. Premiers from Confederation to 1959 are listed in the 1960 Year Book, p. 110; the Hon. Jean Lesage became Premier in 1961 and the Hon. Daniel Johnson in 1966.

Each member of the Legislative Council and the Legislative Assembly receives a sessional indemnity of \$10,000, plus an expense allowance of \$2,000 to each Legislative Councillor and \$6,000 to each member of the Legislative Assembly. In addition to this sessional indemnity and allowance, the Premier receives an annual indemnity of \$16,000, an expense allowance of \$4,000 and a lodging allowance of \$2,000; Ministers with Portfolio each receive an annual indemnity of \$12,000 plus a \$3,000 expense allowance; Ministers without Portfolio each receive an indemnity of \$8,000 plus a \$3,000 expense allowance; the Speaker of the Legislative Assembly receives an indemnity of \$10,000, an expense allowance of \$2,000 and a lodging allowance of \$1,000 and the Deputy Speaker receives an indemnity of \$5,000 and an expense allowance of \$1,000; the Leader of the Opposition in the Assembly receives an indemnity of \$10,000, an expense allowance of \$3,000 and a lodging allowance of \$2,000; the Leader of the Government and the Leader of the Opposition in the Legislative Council each receive an additional sessional indemnity of \$2,000 plus a \$3,000 expense allowance.

23.—Legislatures of Quebec, 1945-67, as at June 30, 1967

NOTE.—Legislatures from Confederation to 1923 are given in the 1924 Year Book, p. 78; for 1924-35 in the 1938 edition, p. 113; and for 1936-44 in the 1963-64 edition, p. 85.

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Aug. 8, 1944	22nd.....	4	Feb. 7, 1945	June 9, 1948
July 28, 1948	23rd.....	4	Jan. 19, 1949	May 28, 1952
July 16, 1952	24th.....	4	Nov. 12, 1952	Apr. 25, 1956
June 20, 1956	25th.....	4	Nov. 14, 1956	Apr. 27, 1960
June 22, 1960	26th.....	3	Sept. 20, 1960	Sept. 19, 1962
Nov. 15, 1962	27th.....	6	Jan. 15, 1963	Apr. 18, 1966
June 5, 1966	28th.....	1	Dec. 1, 1966	¹

¹ Life of Legislature not expired at June 30, 1967.

24.—Twenty-fourth Ministry of Quebec, as at June 30, 1967

(Party standing at latest General Election, June 5, 1966: 56 Union Nationale, 50 Liberal and 2 Independent.)

Office	Name	Date of Appointment
Premier, President of the Executive Council, Minister of Federal-Provincial Affairs and Minister of Natural Resources.....	Hon. DANIEL JOHNSON.....	June 16, 1966
Minister of Education and Minister of Justice.....	Hon. JEAN-JACQUES BERTRAND.....	June 16, 1966
Minister of Finance and Minister of Municipal Affairs.....	Hon. PAUL DOZOIS.....	June 16, 1966
Minister of Labour and Minister of Industry and Commerce.....	Hon. MAURICE BELLEMARE.....	June 16, 1966
Minister of Revenue.....	Hon. RAYMOND JOHNSTON.....	June 16, 1966
Minister of Transport and Communications.....	Hon. FERNAND LIZOTTE.....	June 16, 1966
Minister of Lands and Forests.....	Hon. CLAUDE GOSSELIN.....	June 16, 1966
Minister of Highways and Minister of Public Works	Hon. FERNAND LAFONTAINE.....	June 16, 1966
Provincial Secretary.....	Hon. YVES GABIAS.....	June 16, 1966
Minister of Health and Minister of Family and Social Welfare.....	Hon. JEAN-PAUL CLOUTIER.....	June 16, 1966
Minister of Tourism, Fish and Game.....	Hon. GABRIEL LOUBIER.....	June 16, 1966
Minister of Cultural Affairs.....	Hon. JEAN-NOËL TREMBLAY.....	June 16, 1966
Minister of Agriculture and Colonization.....	Hon. CLÉMENT VINCENT.....	June 16, 1966
Minister without Portfolio (Municipal Affairs)	Hon. FRANCIS BOUDREAU.....	June 16, 1966
Minister without Portfolio (Industry and Commerce)	Hon. EDGARD CHARBONNEAU.....	June 16, 1966
Minister without Portfolio (Public Works)	Hon. ARMAND RUSSELL.....	June 16, 1966
Minister without Portfolio (Justice)	Hon. ARMAND MALTAIS.....	June 16, 1966
Minister without Portfolio (Health)	Hon. Dr. ROCH BOIVIN.....	June 16, 1966
Minister without Portfolio (Education)	Hon. MARCEL MASSE.....	June 16, 1966
Minister without Portfolio (Family and Social Welfare)	Hon. FRANÇOIS-EUGÈNE MATHIEU.....	June 16, 1966
Minister without Portfolio (Highways)	Hon. PAUL ALLARD.....	June 16, 1966

25.—Members of the Legislative Council of Quebec, as at June 30, 1967

(According to seniority)

Name	Division	Date of Appointment
R. O. GROTHÉ.....	De Salaberry.....	Dec. 20, 1927
HECTOR LAFERTÉ (Spenker).....	Stadacona.....	July 26, 1934
J. L. BARIBEAU.....	Shawinigan.....	Jan. 14, 1938
PHILIPPE BRAIS.....	Grandville.....	Feb. 16, 1940
JULES BRILLANT.....	Golfe.....	Jan. 14, 1942
FÉLIX MESSIER.....	De Lanaudière.....	Feb. 12, 1942
ÉDOUARD ASSELIN.....	Wellington.....	Jan. 23, 1946
GEO. B. FOSTER.....	Victoria.....	Aug. 22, 1946
GÉRALD MARTINEAU.....	Lauzon.....	Aug. 22, 1946
J. OLIER RENAUD.....	Alma.....	Aug. 22, 1946
PATRICE TARDIF.....	De la Vallière.....	July 20, 1952
ÉDOUARD MASSON.....	Repentigny.....	Mar. 12, 1953
ALBERT BOUGHARD.....	La Salle.....	Nov. 24, 1954
JEAN BARRETTE.....	Sorel.....	Oct. 19, 1955
ALBINY PAQUETTE.....	Rougemont.....	Oct. 29, 1958
JOHN P. ROWAT.....	De Lorimier.....	Oct. 29, 1958
ERNEST BENOIT.....	Kennebec.....	Apr. 8, 1959
ANTONIO AUGER.....	Les Laurentides.....	Sept. 30, 1959
OSCAR GILBERT.....	Bedford.....	Mar. 30, 1960
JEAN RAYMOND.....	Rigaud.....	Oct. 27, 1960
GEORGE C. MARLER (Leader).....	Inkerman.....	Oct. 8, 1960
ARTHUR DUPRÉ.....	Montarville.....	Aug. 21, 1963
GEORGE O'REILLY.....	La Durantaye.....	Aug. 12, 1964
LIONEL BERTRAND.....	Mille Isles.....	Nov. 25, 1964

Subsection 6.—Ontario

The Government of Ontario consists of a Lieutenant-Governor, an Executive Council and a House of Assembly. Lieutenant-Governors from Confederation (1867) to 1959 are cited in the 1960 Year Book, p. 112; since that date the position has been held by the Hon. Justice John Keiller Mackay, appointed effective Dec. 30, 1957, followed by the Hon. William Earl Rowe, appointed effective Mar. 1, 1963.

The House of Assembly, the single-chamber Legislature of the province, is composed of 108 members elected for a statutory term of five years. Premiers from Confederation to 1959 are listed in the 1960 Year Book, p. 112; the Hon. John Parmenter Robarts became Premier on Nov. 8, 1961 upon the resignation of the Hon. Leslie M. Frost, Premier from May 4, 1949.

Besides the regular departments of government, the Niagara Parks Commission, the Ontario Municipal Board, The Hydro-Electric Power Commission of Ontario, the Ontario-St. Lawrence Development Commission, the Ontario Northland Transportation Commission, the Liquor Control Board, the Liquor Licence Board, the Hospital Services Commission and The Water Resources Commission have been created.

Under the provisions of the Legislative Assembly Act (RSO 1960, c. 208 as amended) each member of the Assembly is paid an annual indemnity of \$8,000 and an allowance for expenses at the rate of \$3,000 for every member of the Assembly representing an electoral district within the Municipality of Metropolitan Toronto and \$4,000 for every member representing any other electoral district. In addition, the Speaker receives a special indemnity at the annual rate of \$3,000 and an expense allowance of \$2,000; the Chairman of the Committee of the Whole a special indemnity at the annual rate of \$2,000; and the Leader of the Opposition a salary of \$12,000 per annum in addition to his indemnity as a member. Each member of the Cabinet having charge of a department receives the ordinary indemnity as a member of the Legislature in addition to his salary as a Minister of the Crown. The salary provided in the Executive Council Act for the Premier is \$16,000 and for a Cabinet Minister having charge of a department \$12,000. By the 1956 amendment, every Minister of the Crown in charge of a department, the Minister of the Crown who is a member of The Hydro-Electric Power Commission of Ontario, and the Leader of the Opposition receive a representation allowance of \$2,000 per annum. Each Minister without Portfolio, other than the Minister who is a member of The Hydro-Electric Power Commission, receives \$2,500 salary and \$1,000 representation allowance per annum.

26.—Legislatures of Ontario, 1945-67, as at June 30, 1967

NOTE.—Legislatures from Confederation to 1923 are given in the 1924 Year Book, p. 79; for 1924-34 in the 1938 edition, p. 114; and for 1935-45 in the 1963-64 edition, p. 87.

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 4, 1945	22nd.....	4	July 16, 1945	Apr. 27, 1948
June 7, 1948	23rd.....	4	Feb. 10, 1949	Oct. 6, 1951
Nov. 22, 1951	24th.....	5	Feb. 21, 1952	May 2, 1955
June 9, 1955	25th.....	5	Sept. 8, 1955	May 4, 1959
June 11, 1959	26th.....	4	Jan. 26, 1960	Aug. 16, 1963
Sept. 25, 1963	27th.....	1	Oct. 29, 1963	1

¹ Life of Legislature not expired at June 30, 1967.

27.—Seventeenth Ministry of Ontario, as at June 30, 1967¹

(Party standing at latest General Election, Sept. 25, 1963: 77 Progressive Conservative, 24 Liberal and 7 New Democratic Party.)

NOTE.—Ministers are shown at date of original appointment as a Minister and at date of appointment to present portfolio, despite the formation of a new Ministry consequent upon the appointment of a new Premier.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier and President of the Council.....	HON. JOHN PARMENTER ROBERTS.	Dec. 22, 1958	Nov. 8, 1961
Minister without Portfolio.....	HON. JAMES NOBLE ALLAN.....	Jan. 5, 1955	Nov. 24, 1966
Minister of Public Works.....	HON. THOMAS RAY CONNELL....	Nov. 1, 1956	Apr. 28, 1958
Minister of Health.....	HON. MATTHEW BULLOCH DYMOND	July 18, 1957	Dec. 22, 1958
Minister of Municipal Affairs.....	HON. JOSEPH WILFRID SPOONER..	July 18, 1957	Oct. 25, 1962
Minister of Social and Family Services.....	HON. JOHN YAREMKO.....	Apr. 28, 1958	Nov. 24, 1966
Minister of Mines.....	HON. GEORGE CALVIN WARDROPE.	Dec. 22, 1958	Nov. 8, 1961
Minister of Financial and Commercial Affairs	HON. HENRY LESLIE ROWNTREE..	Nov. 21, 1960	Nov. 24, 1966
Minister of Reform Institutions.....	HON. ALLAN GROSSMAN.....	Nov. 21, 1960	Aug. 14, 1963
Minister of Agriculture and Food.....	HON. WILLIAM ATCHESON STEWART	Nov. 21, 1960	Nov. 8, 1961
Provincial Treasurer.....	HON. CHARLES STEEL MACNAUGHTON	Nov. 8, 1961	Nov. 24, 1966
Minister of Transport.....	HON. IRWIN HASKETT.....	Nov. 8, 1961	Aug. 14, 1963
Minister of Tourism and Information.....	HON. JAMES ALEXANDER CHARLES AULD.....	Oct. 25, 1962	Aug. 14, 1963
Minister of Education and Minister of University Affairs.....	HON. WILLIAM GRENVILLE DAVIS.	Oct. 25, 1962	Oct. 25, 1962
Minister of Energy and Resources Management.....	HON. JOHN RICHARD SIMONETT...	Oct. 25, 1962	Oct. 16, 1963
Minister of Economics and Development....	HON. STANLEY JOHN RANDALL....	Nov. 8, 1963	Nov. 8, 1963
Minister of Justice and Attorney General....	HON. ARTHUR ALLISON WISHART.	Mar. 26, 1964	Mar. 26, 1964
Minister of Highways.....	HON. GEORGE ELLIS GOMME.....	Jan. 12, 1965	Nov. 24, 1966
Minister of Lands and Forests.....	HON. RENE BRUNELLE.....	Nov. 24, 1966	Nov. 24, 1966
Minister of Labour.....	HON. DALTON ARTHUR BALES....	Nov. 24, 1966	Nov. 24, 1966
Provincial Secretary and Minister of Citizenship.....	HON. ROBERT STANLEY WELCH....	Nov. 24, 1966	Nov. 24, 1966
Minister without Portfolio.....	HON. THOMAS LEONARD WELLS...	Nov. 24, 1966	Nov. 24, 1966
Minister without Portfolio.....	HON. WILLIAM DARCY McKEOUGH	Nov. 24, 1966	Nov. 24, 1966

¹ The Ministry following the General Election of Oct. 17, 1967 is given in an Appendix to this volume.

Subsection 7.—Manitoba

In addition to a Lieutenant-Governor, Manitoba has an Executive Council at present composed of 12 members and a Legislative Assembly of 57 members elected for a statutory term of five years. Lieutenant-Governors from Confederation (1870) to 1959 are cited in the 1960 Year Book, p. 113; since that date, the position has been held by the Hon. Errick F. Willis, sworn in on Jan. 15, 1960, followed by the Hon. Richard S. Bowles, appointed July 2, 1965. Premiers since Confederation are listed in the 1960 Year Book, p. 114.

The Premier of the province is paid a salary of \$18,000 per annum and each of the other members of the Cabinet \$15,000. Members of the Legislature are each paid a sessional indemnity of \$4,800 and a tax-free expense allowance of \$2,400 plus an allowance of \$20 a day for a period of 60 days continuous sitting including Saturdays and Sundays for members outside Metro Winnipeg who have to take board and lodging in Winnipeg during legislative sessions. The Leader of the Opposition is paid \$15,600 and the Speaker of the Legislature receives \$9,600 which is an amount equal to double the indemnity of an individual member.

28.—Legislatures of Manitoba, 1945-67, as at June 30, 1967

NOTE.—Legislatures from Confederation to 1923 are given in the 1924 Year Book, p. 80; for 1924-36 in the 1938 edition, p. 115; and for 1937-45 in the 1963-64 edition, p. 88.

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Oct. 15, 1945	22nd.....	4	Feb. 19, 1946	Sept. 29, 1949
Nov. 10, 1949	23rd.....	7	Feb. 14, 1950	Apr. 23, 1953
June 8, 1953	24th.....	5	Feb. 2, 1954	Apr. 30, 1958
June 16, 1958	25th.....	2	Oct. 23, 1958	Mar. 31, 1959
May 14, 1959	26th.....	5	June 9, 1959	Nov. 9, 1962
Dec. 14, 1962	27th.....	5	Feb. 28, 1963	May 18, 1966
June 23, 1966	28th.....	1	Dec. 6, 1966	1

¹ Life of Legislature not expired at June 30, 1967.

29.—Fifteenth Ministry of Manitoba, as at June 30, 1967

(Party standing at latest General Election, June 23, 1966: 31 Progressive Conservative, 14 Liberal, 11 New Democratic Party and 1 Social Credit.)

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, President of the Council, Minister of Dominion-Provincial Relations and Minister charged with the administration of the Manitoba Development Authority Act...	HON. DUFFERIN ROBLIN ¹	June 30, 1958	June 30, 1958
Provincial Treasurer, Minister charged with the administration of the Insurance Act and Minister of Mines and Natural Resources...	HON. EDWARD GURNEY VAUX EVANS.....	June 30, 1958	July 22, 1966
Provincial Secretary, Minister of Public Works, Minister of Public Utilities and Minister in all other offices to which, and under all statutes under which, he has been appointed or designated as Minister.....	HON. STEWART E. MCLEAN.....	June 30, 1958	July 22, 1966
Attorney-General and Minister of Tourism and Recreation.....	HON. STERLING RUFUS LYON.....	June 30, 1958	July 22, 1966
Minister of Education.....	HON. GEORGE JOHNSON.....	June 30, 1958	Dec. 9, 1963
Minister of Welfare.....	HON. JOHN B. CARROLL.....	June 30, 1958	Feb. 27, 1963
Minister of Health.....	HON. CHARLES H. WITNEY.....	Aug. 7, 1959	Dec. 9, 1963
Minister of Highways.....	HON. WALTER WEIR.....	Oct. 31, 1961	July 22, 1966
Minister of Labour.....	HON. OBIE BAILEY.....	Feb. 27, 1963	Feb. 27, 1966
Minister of Urban Development and Municipal Affairs.....	HON. THELMA FORBES.....	July 22, 1966	July 22, 1966
Minister of Industry and Commerce.....	HON. SIDNEY SPIVAK.....	July 22, 1966	July 22, 1966
Minister of Agriculture and Conservation....	HON. HARRY ENNS.....	July 22, 1966	July 22, 1966

¹ Resigned Nov. 23, 1967; see Appendix for successor and Ministry changes.

Subsection 8.—Saskatchewan

The Government of Saskatchewan consists of a Lieutenant-Governor, an Executive Council and a Legislative Assembly. Lieutenant-Governors from Confederation (1905) to 1959 are cited in the 1960 Year Book, p. 115; since that date the office has been held by the Hon. F. L. Bastedo, commissioned to office Jan. 27, 1958, followed by the Hon. Robert L. Hanbidge, commissioned to office Mar. 1, 1963.

The statutory number of members of the Legislative Assembly is 59, elected for a maximum term of five years. Premiers from Confederation to 1959 are listed in the 1960 Year Book, p. 115; the Hon. W. S. Lloyd became Premier in 1961 and the Hon. W. R. Thatcher in 1964.

The Premier receives \$13,000 and each Cabinet Minister \$10,000 annually in addition to a sessional indemnity. The Leader of the Opposition receives \$10,000 plus an office allowance of \$12,000 per annum, the Speaker \$3,000 and the Deputy Speaker \$2,000. The

sessional indemnity of a member of the Legislature is \$4,000 together with an expense allowance of \$2,000. Each of the members for the three northernmost constituencies of Cumberland, Athabasca and Meadow Lake receives a \$4,335 sessional indemnity and a \$2,165 expense allowance.

30.—Legislatures of Saskatchewan, 1945-67, as at June 30, 1967

NOTE.—Legislatures from Confederation to 1923 are given in the 1924 Year Book, p. 81; for 1924-34 in the 1938 edition, p. 116; and for 1935-44 in the 1963-64 edition, p. 89.

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 15, 1944	10th.....	5	Oct. 19, 1944	May 19, 1948
June 24, 1948	11th.....	5	Feb. 10, 1949	May 7, 1952
June 11, 1952	12th.....	4	Feb. 12, 1953	Apr. 25, 1956
June 20, 1956	13th.....	4	Feb. 14, 1957	May 4, 1960
June 8, 1960	14th.....	6	Oct. 11, 1960	Mar. 18, 1964
Apr. 22, 1964	15th.....	1	Feb. 4, 1965	1

¹ Life of Legislature not expired at June 30, 1967.

31.—Tenth Ministry of Saskatchewan, as at June 30, 1967¹

(Party standing at latest General Election, Apr. 22, 1964: 33 Liberal, 25 Co-operative Commonwealth Federation and 1 Progressive Conservative.)

Office	Name	Date of Appointment
Premier, President of the Executive Council and Provincial Treasurer.....	Hon. W. R. THATCHER.....	May 22, 1964
Minister of Agriculture.....	Hon. D. T. McFARLANE.....	July 5, 1965
Minister of Public Health and Minister of Industry and Commerce.....	Hon. G. B. GRANT.....	Oct. 18, 1966
Attorney General and Provincial Secretary.....	Hon. D. V. HEALD.....	May 22, 1964
Minister of Mineral Resources and Minister of Telephones.....	Hon. A. C. CAMERON.....	May 22, 1964
Minister of Education.....	Hon. G. J. TRAPP.....	Dec. 13, 1965
Minister of Highways and Transportation.....	Hon. D. BOLDT.....	May 22, 1964
Minister of Welfare.....	Hon. C. P. MACDONALD.....	Oct. 18, 1966
Minister of Municipal Affairs.....	Hon. J. C. McISAAC.....	Oct. 18, 1966
Minister of Labour and Minister of Co-operation and Co-operative Development.....	Hon. L. P. CODERRE.....	July 5, 1965
Minister of Public Works.....	Hon. J. W. GARDINER.....	May 22, 1964
Minister of Natural Resources.....	Hon. D. G. STEUART.....	May 22, 1964
		Oct. 18, 1966

¹ The Ministry following the General Election of Oct. 11, 1967 is given in an Appendix to this volume.

Subsection 9.—Alberta

The Government of Alberta is composed of a Lieutenant-Governor, an Executive Council and a Legislative Assembly. Lieutenant-Governors from Confederation (1905) to 1959 are listed in the 1960 Year Book, p. 116; since that date the office has been held by the Hon. J. Percy Page, commissioned to office Dec. 19, 1959, followed by the Hon. J. W. Grant MacEwan, commissioned in January 1966.

There are 65 members in the Legislative Assembly, elected for a maximum period of five years. Premiers since Confederation are listed in the 1960 Year Book, p. 117; the present Premier assumed office in 1943.

Each member of the Legislative Assembly (except the Speaker, the Deputy Speaker and the Leader of the Opposition) receives a sessional indemnity of \$3,600 plus \$1,800 expense allowance plus \$15 for each day during the session when the member is necessarily absent from his ordinary place of residence, both tax free. The Speaker's sessional indem-

nity is \$6,000 plus \$3,000 expense allowance, the Deputy Speaker's sessional indemnity is \$4,800 plus \$2,400 expense allowance, and the Leader of the Opposition's sessional indemnity is \$7,600 plus \$3,800 expense allowance. Each also receives \$15 for each day during the session when he is necessarily absent from his ordinary place of residence. The Premier, in addition to the sessional indemnity, receives \$16,000 and each of the other Ministers receives \$12,500.

32.—Legislatures of Alberta, 1945-67, as at June 30, 1967

NOTE.—Legislatures from Confederation to 1923 are given in the 1924 Year Book, p. 82; for 1924-34 in the 1938 edition, p. 117; and for 1935-44 in the 1963-64 edition, p. 90.

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Aug. 8, 1944	10th.....	5	Feb. 22, 1945	July 16, 1948
Aug. 17, 1948	11th.....	5	Feb. 17, 1949	June 28, 1952
Aug. 5, 1952	12th.....	3	Feb. 19, 1953	May 12, 1955
June 29, 1955	13th.....	5	Aug. 17, 1955	May 9, 1959
June 18, 1959	14th.....	5	Feb. 11, 1960	May 9, 1963
June 17, 1963	15th.....	5	Feb. 13, 1964	Apr. 14, 1967
May 23, 1967	16th.....	1	1	1

¹ Not yet in session by June 30, 1967.

33.—Eighth Ministry of Alberta, as at June 30, 1967

(Party standing at latest General Election, May 23, 1967: 55 Social Credit, 6 Progressive Conservative, 3 Liberal and 1 Independent.)

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, President of Council and Attorney General.....	Hon. ERNEST C. MANNING.....	Sept. 3, 1935	{May 31, 1943 Aug. 2, 1955
Minister of Public Welfare.....	Hon. ALFRED J. HOOKE.....	Apr. 20, 1945	{Aug. 2, 1955 May 1, 1951
Minister of Highways.....	Hon. GORDON E. TAYLOR.....	Dec. 27, 1950	{July 29, 1964 July 29, 1967
Provincial Treasurer and Minister of Telephones.....	Hon. ANDERS O. AALBORG.....	Sept. 9, 1952	{July 29, 1964 Nov. 30, 1962
Minister of Public Works.....	Hon. FRED C. COLBORNE.....	Aug. 2, 1955	{Sept. 1, 1959 July 29, 1967
Minister of Mines and Minerals and Minister of Industry and Development.....	Hon. A. RUSSELL PATRICK.....	Aug. 2, 1955	{Sept. 22, 1959 June 29, 1967
Minister of Labour and Minister of Education	Hon. RAYMOND REIERSON.....	Aug. 2, 1955	{Sept. 18, 1957 Oct. 15, 1962
Minister of Health.....	Hon. J. DONOVAN ROSS.....	Sept. 18, 1957	{Oct. 15, 1962 Oct. 15, 1962
Minister of Agriculture.....	Hon. HARRY E. STROM.....	Oct. 15, 1962	{Oct. 15, 1962 Nov. 30, 1962
Provincial Secretary.....	Hon. AMBROSE HOLOWACH.....	Oct. 15, 1962	{Oct. 15, 1962 July 4, 1966
Minister without Portfolio.....	Hon. ETHEL S. WILSON.....	Nov. 30, 1962	{Feb. 16, 1965 July 4, 1966
Minister of Lands and Forests.....	Hon. HENRY A. RUSTE.....	Feb. 16, 1965	{Feb. 16, 1965 June 29, 1967
Minister without Portfolio.....	Hon. ADOLPH O. FIMRITE.....	July 4, 1966	{June 29, 1967 June 29, 1967
Minister of Youth.....	Hon. ROBERT C. CLARK.....	June 29, 1967	{June 29, 1967 June 29, 1967
Minister of Municipal Affairs.....	Hon. EDGAR H. GERHART.....	June 29, 1967	{June 29, 1967 June 29, 1967
Minister without Portfolio.....	Hon. RAYMOND A. SPEAKER.....	June 29, 1967	{June 29, 1967 June 29, 1967

Subsection 10.—British Columbia

The Government of British Columbia has a Lieutenant-Governor, an Executive Council and a Legislative Assembly. Maj.-Gen. the Hon. George Randolph Pearkes, Lieutenant-Governor at June 30, 1967, was commissioned to office Oct. 12, 1960. Lieutenant-Governors from Confederation (1871) to 1959 are cited in the 1960 Year Book, p. 118.

The Legislative Assembly, elected for a statutory term of five years, has 55 members. Premiers from Confederation to 1959 are cited in the 1960 Year Book, p. 118; the present Premier assumed office in 1952.

Each member of the Executive Council and the Legislative Assembly receives a sessional allowance of \$5,000 and \$1,500 for expenses. There is also paid to each member a living allowance of \$1,000 and each member receives an allowance of 25 cents per mile of the distance between his place of residence and the city of Victoria, reckoning such distance, going and coming, according to the nearest mail route. Each member also receives an allowance of \$500 for telegraph and telephone expenses. In addition, the Premier receives a salary of \$20,000, each member of the Executive Council with a portfolio receives \$17,500 annually and each member of the Executive Council without portfolio receives \$6,000. The Leader of the Opposition receives a special allowance of \$7,500 for expenses, the Speaker receives a special allowance of \$7,500, and the Deputy Speaker a special allowance of \$2,500.

34.—Legislatures of British Columbia, 1945-67, as at June 30, 1967

NOTE.—Legislatures from Confederation to 1923 are given in the 1924 Year Book, p. 83; for 1924-37 in the 1938 edition, p. 118; and for 1938-45 in the 1963-64 edition, p. 91.

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Oct. 25, 1945	21st.....	5	Feb. 21, 1946	Apr. 16, 1949
June 15, 1949	22nd.....	4	Feb. 14, 1950	Apr. 10, 1952
June 12, 1952	23rd.....	1	Feb. 3, 1953	Mar. 27, 1953
June 9, 1953	24th.....	4	Sept. 15, 1953	Aug. 13, 1956
Sept. 19, 1956	25th.....	4	Feb. 7, 1957	Aug. 3, 1960
Sept. 12, 1960	26th.....	4	Jan. 26, 1961	Aug. 21, 1963
Sept. 30, 1963	27th.....	3	Jan. 23, 1964	Aug. 5, 1966
Sept. 12, 1966	28th.....	1	Jan. 24, 1967	1

¹ Life of Legislature not expired at June 30, 1967.

35.—Twenty-eighth Ministry of British Columbia, as at June 30, 1967

(Party standing at latest General Election, Sept. 12, 1966: 33 Social Credit,
16 New Democratic Party and 6 Liberal.)

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, President of the Council and Minister of Finance.....	Hon. WILLIAM ANDREW CECIL BENNETT.....	Aug. 1, 1952	{Aug. 1, 1952 Aug. 1, 1952 Feb. 15, 1954
Provincial Secretary and Minister of Health Services and Hospital Insurance.....	Hon. WESLEY DREWETT BLACK..	Aug. 1, 1952	{Aug. 1, 1952 Dec. 12, 1966
Attorney-General and Minister of Commercial Transport.....	Hon. ROBERT WILLIAM BONNER..	Aug. 1, 1952	{Aug. 1, 1952 Mar. 20, 1964
Minister of Lands, Forests and Water Resources.....	Hon. RAY GILLIS WILLISTON.....	Apr. 14, 1954	Mar. 30, 1962
Minister of Agriculture.....	Hon. FRANCIS XAVIER RICHTER..	Nov. 28, 1960	Nov. 28, 1960
Minister of Mines and Petroleum Resources..	Hon. DONALD LESLIE BROTHERS..	Mar. 20, 1964	Mar. 20, 1964
Minister of Highways.....	Hon. PHILIP ARTHUR GAGLIARDI..	Aug. 1, 1952	Mar. 15, 1955
Minister of Labour and Minister of Education	Hon. LESLIE RAYMOND PETERSON	Sept. 27, 1956	Nov. 28, 1960
Minister of Industrial Development, Trade, and Commerce.....	Hon. RALPH RAYMOND LOFFMARK	Mar. 20, 1964	Mar. 20, 1964
Minister of Municipal Affairs and Minister of Social Welfare.....	Hon. DANIEL ROBERT JOHN CAMPBELL.....	Mar. 20, 1964	{Mar. 20, 1964 Dec. 12, 1966 Mar. 15, 1955
Minister of Public Works.....	Hon. WILLIAM NEELANDS CHANT..	Mar. 15, 1955	Mar. 15, 1955
Minister of Recreation and Conservation and Minister of Travel Industry.....	Hon. WILLIAM KENNETH KIERNAN	Aug. 1, 1952	{Mar. 20, 1964 Mar. 23, 1967
Member of the Executive Council without Portfolio.....	Hon. ISABEL PEARL DAWSON.....	Dec. 12, 1966	Dec. 12, 1966
Member of the Executive Council without Portfolio.....	Hon. PATRICIA JANE JORDAN.....	Dec. 12, 1966	Dec. 12, 1966
Member of the Executive Council without Portfolio.....	Hon. GRACE MCCARTHY.....	Dec. 12, 1966	Dec. 12, 1966

Subsection 11.—Yukon Territory and Northwest Territories***Yukon Territory**

The Yukon was established as a separate territory in 1898 to meet a need for local government created by the influx of miners during the gold rush period. The Yukon Territory Act provided for a Commissioner and a Council of not more than six, all appointed by the Governor in Council. The Commissioner in Council was given legislative powers comparable to those held by the Lieutenant-Governor and the Legislative Assembly of the Northwest Territories. By 1902, five elected councillors had been added and in 1908 a fully elected Council of ten members was introduced. A population decline following the end of the gold rush was accelerated by enlistment during World War I and in 1919 the Council was reduced to three elected members. This remained the level of government until after World War II when population and economic activity again showed an increase, beginning with the building of the Alaska Highway. In 1960, the Council was increased to seven elected members and provision was made for the appointment of an Advisory Committee on Finance.

Basic Legislation.—A principal feature of territorial government is its very close constitutional and working relationship with the Government of Canada. Although the provinces and the Federal Government each have jurisdiction and powers allocated by the British North America Act, the authority of the Territorial Government is allocated only by federal legislation. The Yukon Act prescribes the structure of the executive, legislative and judicial branches of the Territorial Government and the scope of their authority; all residual matters remain under federal control. The Territory has fully representative but not responsible government. The Act has been amended to give increased authority to the Territorial Government and it provides that the number of subjects on which the Territorial Council can legislate may be increased by the Governor in Council. The Yukon Act also provides for the designation of the seat of government; Whitehorse, the single large community in the Territory, was so designated in 1953.

The Government Organization Act, 1966, which describes the responsibilities of the Department of Indian Affairs and Northern Development for the development of Northern Canada, is the other piece of basic legislation under which the Territorial Government operates. The Minister is responsible for the management of the natural resources (except game) and for the development of the North generally. Although he shares authority with the Governor in Council for directing the Commissioner in his duties, he is the effective link between the Territorial and Federal Governments.

The Executive.—The executive side of the Territorial Government is headed by a Commissioner appointed by the Federal Government. He is directed to administer the Government of the Territory under instruction from the Governor in Council or the Minister of Indian Affairs and Northern Development. In practice, the Commissioner is much more responsive to the wishes of his elected Council than the Act implies and he cannot spend any territorial funds which have not been voted by Council. There is also a growing body of other territorial legislation (ordinances) which requires the Commissioner to obtain Council approval for specific actions; actually he never acts on any major issue without consulting Council.

Because the Commissioner does not sit with Council, there is no formal integration of the executive and legislative functions of government at Council sessions. The most recent development toward bridging this gap was the formation of an Advisory Committee on Finance, provided for by the 1960 amendment to the Yukon Act. The Committee consists of three Members of Council appointed by the Commissioner on the advice of Council, with whom the Commissioner is required to consult in the preparation of his

* Prepared under the direction of the Deputy Minister, Department of Indian Affairs and Northern Development, Ottawa.

estimates of expenditures and appropriations. The Committee accompanies the Commissioner to Ottawa annually for discussion with the Minister of territorial estimates and any other major problems of the moment. By its own choice, Council has made membership on the Committee rotational by replacing one member each year.

The Yukon Act also provides for an Administrator to carry out the functions of the Commissioner in his absence. In practice, this responsibility is carried by an Executive Assistant to the Commissioner, a federal public servant. Below the Commissioner's office, the Territorial Public Service is organized into eight conventional administrative departments under the direction of the Commissioner; all are located in Whitehorse. Territorial Government administration is represented in outlying communities by a limited number of Territorial Agents who are concerned mainly with the sale of liquor and licences but most territorial services are administered from Whitehorse. Health facilities are administered mainly by the federal Department of Health and Welfare. Federal involvement in the operation of health services in the Territory stems from its responsibility for Indians and from practical administrative considerations. All schools are under the direction of the Territorial Department of Education with headquarters in Whitehorse. The Territorial Government has well-developed engineering and welfare services. The Territorial Public Service numbers about 800 persons, including some 200 school teachers and vocational school instructors.

Some administrative areas such as natural resources, which are the responsibility of the Department of Indian Affairs and Northern Development, are administered by federal public servants reporting through the Commissioner who, in addition to his territorial role, is also the Department's senior federal representative in the Territory. Because the Minister of Justice is the Attorney General of the Territory for purposes of the Criminal Code of Canada, the administration of justice in the Territory is still provided, at direct federal expense, by the Department of Justice and the Royal Canadian Mounted Police. In 1967, the Territory started a correctional system which is operated along the lines of a provincial penal service.

The Legislature.—The Legislative Council consists of seven members elected for a term of three years. Three of the members represent electoral districts located in or close to Whitehorse where about half of the some 15,000 residents of the Territory live. As in many other matters, a federal agency (Chief Electoral Officer) conducts the territorial elections as a free service to the Territory. Council normally meets in session twice each year. The first session commences in March and has as a major part of its work the voting of the main territorial estimates which have been prepared by the Commissioner and agreed to by its Advisory Committee on Finance and the Minister. The second session is usually called in November and special sessions can be held at any time. Main sessions last from one to two months and the debates are recorded verbatim and published under the title of *Votes and Proceedings*. The Commissioner calls Council into session and prorogues it; he sits with it only by invitation to explain or defend a proposed expenditure, draft legislation and policy papers which he has placed before Council. All sessions are presided over by a Speaker who is appointed by Council from among its members for the duration of each Council. The Yukon Act contains only a single oblique reference to the position of Speaker and gives him no specific responsibilities or authority. In practice, he conducts Council proceedings under Rules of Council which are an adaptation of Canadian parliamentary procedures. He sometimes represents Council on formal occasions but Council has not sought to increase the stature of this position, the origin of which is probably related to the large American element in the Territory during and following the gold rush period and its predilection for the form of government established in the United States. A Clerk of Council controls the administrative side of its proceedings.

The matters on which Council can legislate are not significantly fewer than those enjoyed by the provinces. The main exceptions concern natural resources. These are a responsibility of the Federal Government which has to provide the heavy investments in

transportation and other facilities needed to bring them into production. Most major policy matters are first placed before Council in the form of a Sessional Paper prepared by the Commissioner, and the draft legislation is then presented at the next session in the form of a Bill, although amendments to existing legislation may be processed concurrently with the Sessional Paper or without the assistance of this background information. Discussion is conducted usually with the Council resolved into Committee of the Whole when the Commissioner, heads of departments and outside specialists appear to give detailed information and advice on particular subjects. Bills are given three readings and require the assent of the Commissioner before they become law as Ordinances of the Territory. The Commissioner can reserve assent to legislation but rarely does so. As with provincial legislation, the Federal Government may disallow any Ordinance but within a longer period of two years. New Ordinances are published after each session, and as Consolidated Ordinances of the Yukon Territory which are usually revised every ten years.

The Judiciary.—Before it was created a Territory in 1898, the Yukon was designated as the Yukon Judicial District. The Yukon Act provides for a Territorial Court which consists of a single Judge of Superior Court rank and one Police Magistrate. Both are located in Whitehorse. There are 28 Justices of the Peace, appointed by the Governor in Council, at 13 locations in the Territory. The Judge of the Territorial Court of the Northwest Territories is *ex officio* Judge in the Yukon and vice versa. There is also a Special Court of Appeal consisting of the Chief Justices of British Columbia, the Justices of Appeal of British Columbia and the Judge of the Territorial Court of the Northwest Territories.

The Role of the Federal Government.—Direct federal involvement in the affairs of the Territorial Government extends from control of its constitution to responsibility for the operation of certain provincial-type services and for providing the bulk of its finances. The constitutional arrangement has been described, as have some of the federally operated provincial-type services, e.g., justice and law enforcement and the health services. Beyond these special services, the Federal Government provides the usual range of national services such as the operation of Canadian Broadcasting Corporation radio stations, mail delivery and mainline airports. Full assistance under all national welfare programs is available in the Territory. Even with special financial assistance in many particular areas, the low volume of local revenues falls far short of meeting the high cost of services provided by the Territorial Government. The Federal Government picks up this financial deficit through fiscal arrangements known as Federal-Territorial Financial Agreements. These agreements have a definite term, usually five years, and serve to both allocate the particular functions to be carried out in the Territory by each government and indicate the amount of federal financial assistance the Territorial Government will receive within the life of the agreement. The allocation of responsibility for providing a particular service is usually related to the ability of the Territorial Government to undertake the task. The amount of federal financial assistance given to the Territorial Government is simply the difference between the forecast of revenues available to the Territorial Government and the forecast of the cost of a reasonable level of services to be provided by that Government. In the process, the Territorial Government forgoes its authority to tax private and corporate incomes and to collect other corporation taxes and succession duties.

Setting aside special accounts such as housing loans and amortization of borrowings from the Federal Government for which individual arrangements are made, the Yukon Government in the year ended Mar. 31, 1967, spent over \$8,000,000 on operational account and another \$3,000,000 on capital account. Of the total expenditure of approximately \$11,000,000, the Territorial Government raised about \$2,700,000 locally and recovered another \$3,000,000 from the Federal Government via shared-cost programs. The remainder was provided by the Federal Government under its financial agreement with the Territory.

COMMISSIONER, COUNCIL AND COUNCIL STAFF OF THE YUKON TERRITORY
(as at Oct. 1, 1967)

Commissioner..... J. SMITH

Members of the Council—

Carmacks-Kluane.....	J. O. LIVESSEY
Dawson.....	G. O. SHAW
Mayo.....	Mrs. G. J. GORDON
Watson Lake.....	D. E. TAYLOR
Whitehorse East.....	N. S. CHAMBERLIST
Whitehorse North.....	J. K. MCKINNON
Whitehorse South.....	J. F. DUMAS

Officers of the Council—

Territorial Secretary and Clerk of the Council.....	H. J. TAYLOR
Legal Adviser.....	(vacant)

Northwest Territories

The Temporary Government Act of 1869 was the first legislation by the Federal Government to establish government in the newly acquired Rupert's Land and North-Western Territory. However, functional territorial government really dates from the North-West Territories Act of 1875. The creation of the Provinces of Saskatchewan and Alberta in 1905 and the adjustment of the northern boundaries of the Provinces of Manitoba, Ontario and Quebec by 1912 pushed the Territories north of the 60th parallel. The 1905 legislation provided for a federally appointed Commissioner with wide executive and legislative powers and a Council of four but no Councillors were appointed for 16 years. In 1921 the Council was expanded to six members and, until 1946 when the first territorial resident was appointed, it was comprised entirely of senior federal officials.

Defence early warning systems, radio and greatly improved air transportation after World War II ended the extreme isolation of the North and pressures for improved territorial government soon followed. The main advances came with legislative changes in 1951 and 1952 when the Council membership was increased to eight, with three of these elected from the Mackenzie District. A fourth was added in 1954. At least two Council sessions were required to be held in a year; one in the Territories and all others at the seat of government in Ottawa. The subjects on which the Commissioner in Council could legislate were increased to approximate those of the provincial legislatures except that natural resources (other than game) were reserved to the Federal Government. A Territorial Court was established.

Recent Constitutional Developments.—Since the quickening of federal interest in the North in the 1950s, there have been concern and effort to arrange for a resident territorial government and to chart the course of its future development. The first action was taken in 1963 when it was proposed to divide the Northwest Territories into two territories to allow the residual "Mackenzie Territory" to have a resident administration and to advance more rapidly than the proposed "Nunassiat Territory" in the Eastern Arctic. While the disparity between the physical, economic and social conditions in the two areas was recognized, the draft legislation met strong opposition and the Bills did not survive beyond first reading and committee examination. However, an amendment to the Northwest Territories Act in 1966 created three new electoral districts in the Eastern Arctic and, for the first time, gave elected representation to all residents of the Territories. Also, at the ensuing election the first Eskimo was elected to the Territorial Council. A separate consolidated revenue fund was set up for the Territorial Government and wider powers in other areas of financial administration were introduced.

Meanwhile, in 1965, the Federal Government had appointed an Advisory Commission on the Development of Government in the Northwest Territories which travelled widely in the North to examine into the local needs for change. Following receipt of its recommendations in 1966, the Federal Government acted quickly to provide for a territorial administration resident in the Territories. Yellowknife was designated as the seat of territorial government and arrangements were begun to accommodate the Commissioner

and his staff in the new capital. In addition, plans have been announced for the transfer from federal to territorial control of the operational responsibility for the existing government services as quickly as the new territorial administration can assume these functions. This transfer is expected to take approximately two years in the Mackenzie District and somewhat longer in the Eastern Arctic where communications and other circumstances dictate a slower pace. Other recommendations made by the Commission are still under consideration.

Changes in Territorial Administration.—Unlike the Yukon Territory which has had its own public service since the turn of the century, the Government of the Northwest Territories, until recently, has been largely dependent upon the Federal Government for staff to implement its legislation and to operate its public services. This arrangement was dictated by circumstances as they existed after World War II. The Federal Government had a direct responsibility for the education and welfare of the large Indian and Eskimo populations and for the operation and support of the Territorial Government. Until 1963, the Deputy Minister of Northern Affairs (now Indian Affairs and Northern Development) was Commissioner, and the Northern Administration Branch of this Department was devoted to operating most government services in the Northwest Territories with federal public servants. This arrangement worked well, for the Deputy Minister could ensure that his wishes as Commissioner and those of his Council were carried out and that both the Department and the Territorial Government worked in unison.

In 1963, a full-time Commissioner was appointed and charged with building up a territorial administration located initially in Ottawa but to move into the Territories as soon as possible. A full-time Deputy Commissioner was appointed in 1965 and a territorial staff was gradually built up to administer the territorial finances and to conduct the Council sessions. Following the designation of the seat of government in the Territories, the Commissioner and his staff of about 50 territorial public servants moved to Yellowknife in September 1967. On arrival there, the Commissioner assumed full responsibility for the operation of the liquor system, which was already staffed by territorial contract employees, and for the game management service, for municipal affairs and for the issuing of all licences and the collecting of taxes. The schools, welfare, engineering and other administrative services continue to be operated by federal staff until they can be transferred to territorial status on a planned basis. The new resident Territorial Government is structured to carry out its administration through six main departments, each under the direction of a senior public servant reporting to the Deputy Commissioner.

Present Government Structure.—The Northwest Territories Act, 1952, as amended, provides for an executive, legislative and judicial structure. The Commissioner is the chief executive officer. He is appointed by the Federal Government and is responsible for the administration of the Territories under the effective direction of the Minister of Indian Affairs and Northern Development. In practice, all major policy decisions are taken on the advice of his Council and the Commissioner can spend funds only to the extent voted by Council. New revenue measures are subject to the approval of Council. Normally, the Commissioner obtains prior federal approval of proposed legislative and budgetary measures before submitting them to Council. There is a Deputy Commissioner who can act for the Commissioner in his absence and is the effective head of the territorial administration. Government services at the local level are still provided mainly by federal staff who are gradually being transferred to territorial status.

The Legislative Council of seven elected and five appointed members has a life of three years. It meets at least twice each year, usually in February and November, but other sessions can be convened by the Commissioner as required. The Commissioner presides over Council in Session and the Deputy Commissioner sits as an appointed member. Main sessions last three to five weeks. A Clerk of Council and a Legal Adviser provide the main administrative assistance and debates are recorded verbatim.

The Northwest Territories Act gives the Legislative Council authority to legislate in most "provincial" areas of government activity except for natural resources (other than game); these are reserved to the Federal Government which alone can provide the necessary development funds. Council is conducted under rules which are an adaptation of federal parliamentary procedure. Legislation (ordinances) must receive three readings and have the assent of the Commissioner. He can reserve assent but this is a rare occurrence and the Federal Government may disallow any ordinance within two years. The Commissioner proposes most legislation but private members' Bills are allowed except for money matters which are the prerogative of the Commissioner. Besides draft legislation, the Council gives considerable time to policy papers in which the Commissioner asks for advice or seeks authority to take a particular course of action.

There is a full system of courts in the Territories, consisting of a territorial court, a police magistrate and numerous justices of the peace to serve the widely scattered settlements. Certain provincial superior courts have concurrent jurisdiction and there is provision for a Court of Appeal. The Minister of Justice is the Attorney General of the Territories under the Criminal Code and the Department of Justice oversees the administration of justice in the Territories. The single Territorial Court is located at Yellowknife and goes on circuit to serve the northern and eastern portions of the Territories. The Judge of the Yukon Territorial Court is *ex officio* a judge of the court in the Northwest Territories. Law enforcement is provided by the Royal Canadian Mounted Police.

Continuing Federal Responsibility.—The Government Organization Act, 1966 charges the Minister of Indian Affairs and Northern Development with responsibility for the development of the North and for the general co-ordination of federal activities in the area. His responsibilities for the Territorial Government through the Northwest Territories Act have been described as has the operation of government services by the staff of his Department. Other Federal Government agencies, such as the Northern Health Service of the Department of National Health and Welfare and the Royal Canadian Mounted Police, are responsible for health and police services with the Territorial Government sharing their costs. The Department of Transport operates mainline airports throughout the whole of the North and the Canadian Broadcasting Corporation provides special shortwave northern broadcasts and maintains a growing number of local stations in the Territories. Federal cost-shared national assistance programs, within the competence of the Territorial Government, are available to it on the same conditions as to the provinces.

There are about 6,000 Indians and over 10,000 Eskimos in the Northwest Territories for whom the Federal Government has a special responsibility. Although there are no Indian reserves in the Territories, two treaties were entered into which established certain claims to land and certain other rights. As in the provinces, legislative authority with respect to Indians and lands reserved for Indians is vested exclusively in the Federal Government and this authority extends to Eskimos.

In addition to the many provincial-type services such as health and education operated by the Federal Government and for which the Territory pays in respect of residents other than Indians and Eskimos, it also provides extensive financial assistance to the Territorial Government under special federal-territorial financial agreements which have usually spanned a period of five years. These agreements serve both to allocate the financial responsibility of each government for the provision of services in the Territories and to fix the amount of the federal financial payments to the Territorial Government for the life of the agreement. At this stage of development, territorial revenues fall far short of meeting the expenditures of the Territorial Government. Under the financial agreements, all taxes on personal and corporate incomes, corporation taxes and succession duties are reserved to the Federal Government.

The amount of federal financial assistance to the Territories is increasing substantially as the Territorial Government assumes responsibility for additional services. Excluding special accounts such as housing loans and amortization of borrowings for which individual

arrangements are made, the Territorial Government during the year ended Mar. 31, 1967, spent about \$7,500,000 on operational account and almost \$4,400,000 on capital projects. Of these expenditures, approximately \$3,000,000 were provided from liquor profits, tax and licence revenues raised within the Territories and another \$1,700,000 from recoveries under federal cost-shared programs. The remainder was provided by the Federal Government as direct subsidies under the financial agreement. In addition, the Northern Administration Branch, Department of Indian Affairs and Northern Development, had direct expenditures of approximately \$37,500,000 for its operations connected mainly with the Northwest Territories which, in effect, were a charge against the true cost of governing the Territories.

COMMISSIONER, COUNCIL AND COUNCIL STAFF OF THE NORTHWEST TERRITORIES
(as at Oct. 1, 1967)

Commissioner	S. M. HODGSON
Deputy Commissioner	J. H. PARKER
Members of the Council—	
Appointed.....	J. H. PARKER (4 others to be announced)
Elected—	
Mackenzie Delta.....	L. TRIMBLE
Mackenzie River.....	(vacant)
Mackenzie South.....	D. M. STEWART
Mackenzie North.....	D. SEARLE
Western Arctic.....	D. PRYDE
Central Arctic.....	R. G. WILLIAMSON
Eastern Arctic.....	SIMONIE
Officers of the Council—	
Clerk.....	W. H. REMNANT
Legal Adviser.....	F. G. SMITH

Section 3.—Local Government*

Local government in Canada comprises all government entities created by the provinces and territories to provide services which they consider are better discharged through control at the local level than through that of the senior governments. Broadly speaking, local government provides protection to persons and property, public works, sanitation and waste removal, health, social welfare, education, recreation and community services for Canadians. In addition, local government, through the medium of government enterprises, may operate such facilities as transit, the supply of electricity and gas, telephone service and the like. Traditionally, the local administration of education has been kept separate from other forms of local government except in the Province of Alberta. The organization and administration of education is dealt with separately in this volume.

Although the establishment of many local government organizations antedates Confederation, the British North America Act of 1867 placed local government in Canada under the control of the provincial legislatures and this was subsequently extended to the territories when their governments were constituted in their present forms. The earliest form of local government, apart from the school board, was the municipality. The powers and responsibilities of municipalities are those delegated to them by statutes passed by their respective provincial or territorial legislatures. Some of these statutes apply to all municipalities within a province or territory, some to a certain type or group, and many to one municipality only.

The rapid and continuing urbanization of Canada since the Second World War and the demand for the provision of services in rural areas comparable to those obtainable in urban areas have placed great strains on local government. These strains have been

* Prepared in the Governments Division, Financial Statistics Branch, Dominion Bureau of Statistics.

aggravated by the inelasticity of the major local revenue source—the taxation of real property; at the same time the small populations of most municipalities have hindered their attempts to provide services which require economies of scale for efficient operation.

The provinces have taken a number of steps to assist local governments to meet these challenges. There has been a proliferation of special agencies, joint boards and commissions to provide certain services or parts of the services previously described for groupings of municipalities. Local government revenue has been supplemented by grants from the provinces, either made unconditionally or for specific purposes. Certain functions traditionally assigned to local government have been assumed in whole or in part by the provinces, the most notable example being the assumption of the responsibility for justice, health, welfare and education by the provincial government in New Brunswick. Besides encouraging the amalgamation of small units, the provinces have also established new levels of local government to discharge those functions that provide obvious examples of economies of scale. The establishment of the Municipality of Metropolitan Toronto in 1954 was followed by that of the Metropolitan Corporation of Greater Winnipeg in 1960. At present British Columbia is establishing regional districts which will provide local government throughout the entire province for the first time by the end of 1967. These regional districts, like the metropolitan governments, are superimposed on existing municipalities and have been made responsible for supplying services whose efficiency depends upon economies of scale which cannot be achieved by the individual municipalities. A very different program is under way in Newfoundland where the scattered population in the many outposts is being encouraged and assisted to move to larger and more viable settlements.

As previously stated, the major local revenue source available to local governments is the taxation of real property, supplemented in varying degrees by taxation of personal property and business. (Taxation of persons and tenants has now largely disappeared.) In three provinces municipalities may levy an amusement tax, in three they may impose sales taxes on specific commodities. Miscellaneous general revenue is derived from licences, permits, rents, concessions, franchises and fines. A great many municipalities operate enterprises which sometimes provide surplus funds that may become available to help pay for other municipal services. On the other hand, expenditures of municipalities often include provision for the deficits of their enterprises.

Since a description of all forms of local government would be too complex for easy comprehension, the following paragraphs describe only municipal organization in each province and in the territories as at Jan. 1, 1967. Table 36, which gives the total number of each type of municipality in each province and territory, shows separately the number of all fully incorporated cities, towns, villages, and county and regional municipalities as well as municipalities in Census Metropolitan Areas. It should be noted that the five new "borough" municipalities of Metropolitan Toronto have been included in the count of "cities". Municipalities in Quebec functioning under the name of "Ville de", such as Ville de Montréal and Ville de Laval, which are incorporated as cities, have been counted according to their incorporation.

Newfoundland.—The Province of Newfoundland has two cities—St. John's and Corner Brook. A number of the province's many settlements have been organized into 62 towns, four rural districts, 10 local improvement districts and 74 local government communities. The towns, rural districts and local improvement districts operate under the Local Government Act; towns and rural districts have elected councils and local improvement districts have appointed trustees. Local government communities established under the Community Councils Act in the smaller settlements have limited powers and functions. There are no rural municipalities in the usual sense. Only about one fifth of 1 p.c. of the total area is municipally organized. Municipalities are supervised by the Department of Municipal Affairs and Housing.

Prince Edward Island.—In this province, one city and seven towns have been incorporated under special Acts and 21 villages have been established under the Village Services Act. There is no municipal organization for the remainder of the province although it is divided into school sections which have elected school boards.

Nova Scotia.—Municipal organization in Nova Scotia covers the whole of the province. The three cities operate under special charters and special legislation. Thirty-nine towns operate under the Town Incorporation Act but there are no municipalities incorporated as villages. Cities and towns are independent of counties. The rural area is divided into 18 counties which, in themselves, do not represent units of local government. However, 12 of these counties each comprise one municipality and the other six each comprise two municipalities, making a total of 24 rural municipalities. Supervision of municipalities is exercised through the Department of Municipal Affairs.

New Brunswick.—This province, as already noted, was fully reorganized as at Jan. 1, 1967. The 15 counties were dissolved and the structure is now comprised of six cities, 21 towns and 78 villages. In addition, there are local service districts but these are not municipal organizations and are excluded from this count. The remainder of the province not municipally organized is administered by the Government of New Brunswick; municipalities are administered by the Department of Municipal Affairs.

Quebec.—Municipal divisions in Quebec embrace the more thickly settled areas comprising about one third of the province and the remainder is governed by the province as 'territories'. The organized area is divided into 74 county municipalities which are divided again into local municipalities and designated as village, township or parish municipalities or simply as municipalities. The counties as such have no direct powers of taxation. Funds to finance the services falling within their jurisdiction are provided by the municipalities forming part thereof. Parts of some counties are not yet organized into incorporated units of local government, being in outlying areas and having little or no population. There are 309 villages and 1,101 townships and parishes. A small number of these are independent of the counties in which they are located. The Municipal Code governs local municipalities and the 66 cities and 178 towns have special Acts. The supervision and assistance of municipalities is through the Department of Municipal Affairs and the Quebec Municipal Commission. Municipal statistics are gathered by the Quebec Bureau of Statistics.

The active functions of the Montreal Metropolitan Corporation are limited because of the ability of the area municipalities to fulfil their own obligations. The Corporation services borrowings contracted before Apr. 1, 1961, when the Montreal Metropolitan Boulevard became a provincial responsibility, and apportions costs incurred in the area municipalities for streets constructed on each side of the Boulevard.

Ontario.—Slightly more than one tenth of the area of Ontario is municipally organized and the remainder is governed entirely by the provincial government. The older settled section of the province is divided into 43 counties, five of which are united with others for administrative purposes. Each county, although it is an incorporated municipality, is comprised of the towns, villages and townships situated within its borders. The local municipal organization is comprised of one metropolitan municipality, five boroughs, 33 cities, 155 towns, 158 villages, 571 townships and 18 improvement districts. Some municipalities are located in the northern districts which are not organized into counties. Supervisory control of municipalities is exercised by the Department of Municipal Affairs and the Ontario Municipal Board under the Municipal Act and other Acts governing aspects of municipal government.

The Municipality of Metropolitan Toronto, in existence since Jan. 1, 1954, encompasses one city and five boroughs. The Metropolitan Council is composed of the mayor, two senior controllers and the senior alderman of each of the nine wards of the City of Toronto and, for the five boroughs, the mayors, 13 controllers and two aldermen either designated by virtue of office or appointed by local councils. The chairman is elected by the councillors and need not be a councillor of an area municipality. The Council has jurisdiction over assessments, water supply, sewerage works, metropolitan road systems, transit, municipal housing developments, community planning, parks and recreation areas, the Court House, certain health and welfare services and the correlation of educational facilities in the metropolitan area. It also controls a unified metropolitan police force and a metropolitan licensing commission. In 1967 additional responsibilities were assumed respecting libraries, garbage disposal sites, low rental housing, welfare assistance and ambulance service. Expenditures are financed by a levy apportioned among the area municipalities. All borrowing of the area municipalities for capital purposes is done by the Municipality of Metropolitan Toronto.

Manitoba.—Manitoba has nine cities, which derive their powers from special Acts and do not come under the supervision of the Department of Municipal Affairs. The Department supervises the 36 towns, 41 villages and 110 rural municipalities under the Municipal Act. There are 18 local government districts in settled areas not within municipalities where the province has placed a resident administrator to carry out the functions of a municipal council. The unorganized areas are the direct responsibility of the provincial government.

The Metropolitan Corporation of Greater Winnipeg has been in existence since Nov. 1, 1960. Its council is separate and distinct from those of the 16 area municipalities. The councillors are elected as individuals from ten districts, each containing approximately the same number of voters. The council has jurisdiction over planning, zoning, land development, assessments, arterial roads, water supply, sewage disposal, transit and other services. It borrows money only for its own undertakings and leaves to its area municipalities the responsibility for welfare, police, fire protection and other services. Expenditures are financed by a proportion of the business and other taxes levied on industrial or commercial property by the area municipalities and by a uniform levy on the equalized assessment of all taxable real property in the area municipalities.

Saskatchewan.—All municipalities in Saskatchewan derive their powers from general Acts that are designated with the name of the type of municipality. There are 11 cities, 125 towns, 364 villages and 295 rural municipalities. The area so organized consists of most of the southern two fifths of the province; the remainder of this portion is administered for local purposes by the province in 11 unincorporated local improvement districts. The northern three fifths is sparsely populated and without local government, except for the corporation of Uranium City and District, although some municipal services are provided by the province through operation of the Northern Administration District. Municipalities are supervised by the Department of Municipal Affairs.

Alberta.—The whole Province of Alberta is under some type of municipal organization. The province has an Act applying to each type of municipality and under these Acts the Department of Municipal Affairs supervises the nine cities, 99 towns, 167 villages, 21 municipal districts and 28 counties. The latter administer schools as well as municipal services. Municipal government for the 45 improvement districts is provided by the Department of Municipal Affairs.

British Columbia.—As already noted, the Government of British Columbia commenced instituting regional government in the province with the intent of having the whole province organized municipally by the end of 1967. As at Jan. 1, 11 such regional

36.—Municipalities by Official Designation and by Statistical Classification, by Province or Territory, as at Jan. 1, 1967

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Total
OFFICIAL DESIGNATION ¹													
Local municipalities.....	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Metropolitan corporations	152	29	66	105	1,655	928	215	806	369	139	3	5	4,472
Cities.....	...	...	...	...	1	1	1	...	...	...	...	...	8
Towns.....	8	1	3	6	66	333	9	11	9	32	2	2	181
Villages.....	63	7	59	21	173	151	99	125	99	12	1	1	732
Other local municipalities ⁴	...	81	...	78	509	165	41	364	167	66	...	2	1,193
Counties and regional municipalities	88	...	24	...	1,101	633	183	506	94	39	...	...	2,563
Totals, Incorporated Municipalities.....	152	29	66	105	1,729	966	215	806	369	150	3	5	4,595
STATISTICAL CLASSIFICATION ²													
Local municipalities—	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Census Metropolitan Area municipalities.....	2	...	3	9	105	64	16	2	6	21	...	...	228
(Cities, towns and villages included therein).....	(8)	...	(2)	(9)	(39)	(41) ³	(9)	(2)	(3)	(8)	3	5	(165)
Other local municipalities	150	29	63	96	1,550	864	199	804	363	118	...	...	4,244
Counties and regional municipalities	...	...	...	...	74	38	...	...	...	11	...	...	123
Totals, Incorporated Municipalities.....	152	29	66	105	1,729	966	215	806	369	150	3	5	4,595

¹ Municipalities grouped according to their official nomenclature, which is roughly indicative of size and nature, devised by the Dominion-Provincial Conferences on Municipal Statistics designed to bring municipalities into comparable groups for statistical presentation. ² The five boroughs in Metropolitan Toronto are included with "Cities". ³ The nature and number of the various forms of "Other local municipalities" are given in the text preceding this table, under provincial headings. ⁴ Other local municipalities

districts had been established. There are 32 cities, 12 towns, 56 villages and 39 districts; the latter are mostly rural municipalities although there are some districts adjacent to the principal cities of Victoria and Vancouver that are largely urban in character. It should be emphasized, however, that in British Columbia the application of the name 'city' is somewhat different from the commonly accepted meaning; because of their small size, perhaps one half or more of the 32 cities would not normally be incorporated as such in another province. Municipalities are supervised by the Department of Municipal Affairs.

In addition to the above types of municipalities, there are unincorporated improvement districts that have been set up to provide certain municipal services such as protection, waterworks, irrigation, etc. These districts are under the supervision of the Department of Lands, Forests, and Water Resources.

Yukon and Northwest Territories.—In Yukon Territory there are two cities (Whitehorse and Dawson) and one unincorporated town (Mayo). In the Northwest Territories there are two towns (Yellowknife and Hay River), one village and two local improvement districts.

Section 4.—Federal and Provincial Royal Commissions

Federal Royal Commissions Established.—Royal Commissions established from July 1, 1966 to June 30, 1967 under Part I of the Federal Inquiries Act are given here in continuation of those previously reported in the Year Books beginning with the 1940 edition, pp. 1108-1110. Any Commission established between June 30, 1967 and the date of going to press will be found in the Register of Official Appointments, Chapter XXVII, Part III.

<u>Nature of Commission</u>	<u>Chief Commissioner</u>	<u>Date Established</u>
To inquire into the costs of farm machinery and repair parts.	Dr. C. BARBER.....	May 26, 1966
To inquire into the operation of Canadian Security methods and procedures.	M. W. MACKENZIE.....	Nov. 16, 1966
To inquire into the status of women in Canada.	Mrs. JOHN BIRD.....	Feb. 16, 1967

Reports of Federal Royal Commissions.—Reports of Federal Royal Commissions issued during the period July 1, 1966 to June 30, 1967 were as follows:—

Report of Commission of Inquiry into working conditions in the Post Office Department, established Sept. 1, 1965. Ottawa, 1966. 363 p. \$1. (Cat. No. Z1-1965/2).

Report of Commission of Inquiry into matters relating to one Gerda Munsinger, established Mar. 14, 1966. Ottawa, September 1966. 93 p. \$1. (Cat. No. Z1-1966/2).

Report of Commission of Inquiry re the Hon. L. A. Landreville, established Jan. 19, 1966. Ottawa, 1966. 133 p. \$1. (Cat. No. Z1-1966/3).

Report of Commission of Inquiry into complaints made by George Victor Spencer, established Mar. 7, 1966. Ottawa, 1966. 60 p. 50c. (Cat. No. Z1-1966/1).

Report of the Royal Commission on Taxation, established Sept. 25, 1962. Ottawa, 1966.

Vol. 1, Introduction, acknowledgment and minority reports. 138 p. \$1.75. (Cat. No. Z1-1962/1-1ad).

Vol. 2, Use of the tax system to achieve economic and social objectives. 353 p. \$3.75. (Cat. No. Z1-1962/1-2ad).

Vol. 3, Taxation of income: Part A—Taxation of individuals and families. 685 p. \$7. (Cat. No. Z1-1962/1-3ad).

Vol. 4, Taxation of income (continued): Part B—Taxation of income flowing through intermediaries; Part C—Determination of business income; Part D—International. 848 p. \$8.75. (Cat. No. Z1-1962/1-4ad).

Vol. 5, Sales taxes and general tax administration: Part A—Sales and excise taxes and duties; Part B—General tax administration. 248 p. \$2.75. (Cat. No. Z1-1962/1-5ad).

Vol. 6, Implications of the proposed tax reforms. 304 p. \$3.25. (Cat. No. Z1-1962/1-6ad).

Consolidated index. 119 p. Free with complete set. (Cat. No. Z1-1962/1-7ad).

Provincial Royal Commissions.—The following provincial Royal Commissions were established during the period July 1, 1966 to June 30, 1967:—

<u>Province and Nature of Commission</u>	<u>Chief Commissioner or Chairman</u>	<u>Date Established</u>
PRINCE EDWARD ISLAND		
To inquire into the establishment and future development of two industries—Bathurst Marine Ltd. and Gulf Gordon Foods Ltd.	His Hon. Judge C. St. CLAIR TRAINOR.....	Dec. 30, 1966
NOVA SCOTIA		
To inquire into gasoline prices.....	H. A. RENOUF.....	Dec. 29, 1966
QUEBEC		
To inquire into health and social welfare services.	CLAUDE CASTONGUAY.....	Nov. 9, 1966
To study present problems concerning the implementation of criminal and penal laws in this province.	YVES PRÉVOST.....	Jan. 24, 1967
ONTARIO		
*To inquire into, report upon, and make recommendations concerning the Workmen's Compensation Act, on subjects other than detail administration.	Hon. GEORGE A. MCGILLIVRAY....	June 14, 1966
To inquire into and report upon all matters relating to the education and regulation relevant to the practice of the healing arts.	IAN R. DOWIE.....	July 14, 1966
To inquire into the means of enforcement of the rights, duties, obligations and liabilities of employees and employers, individually and collectively, and of trade unions and their members, individually and collectively, etc., to report thereon and make recommendations.	Hon. IVAN C. RAND.....	Aug. 18, 1966
To inquire into and report upon allegations made by Dr. Morton P. Shulman, of the Municipality of Metropolitan Toronto, against the Government of Ontario and certain senior civil servants of the Department of the Attorney General for Ontario.	Hon. WILLIAM DICKENS PARKER..	Apr. 13, 1967
MANITOBA		
Prairie Provinces Price Inquiry Commission..	Her Hon. Judge MARY J. BATTEN.	Dec. 14, 1966
SASKATCHEWAN		
Royal Commission on Rising Prices and Increases in the Cost of Living in the Prairie Provinces.	Her Hon. Judge MARY J. BATTEN.	Dec. 7, 1966
ALBERTA		
Juvenile Delinquency.....	F. H. QUIGLEY.....	Sept. 27, 1966
Mechanics Lien Act.....	His Hon. Judge (retired) N. V. BUCHANAN.....	Oct. 18, 1966
Members of Executive Council Conflict of Interest.	Hon. Mr. Justice W. J. C. KIRBY..	May 11, 1967
BRITISH COLUMBIA		
To inquire into invasion of privacy.....	R. A. SARGENT.....	Jan. 3, 1967

* Appointed prior to July 1, 1966 but omitted from list published in the 1967 Year Book.

PART III.—ADMINISTRATIVE FUNCTIONS OF THE FEDERAL GOVERNMENT

Section 1.—Financial Administration*

The financial affairs of the Government of Canada are administered and controlled under the fundamental principles that no tax shall be imposed and no money shall be spent without the authority of Parliament and that expenditures shall be made only for the purposes authorized by Parliament. The most important constitutional provisions relating to Parliament's control of finances are contained in the British North America Act; this Act provides that all federal taxing and appropriating measures must originate in the House of Commons and all requests for grants must come from the Crown through responsible Ministers, and for such requests the Government is solely responsible. In practice, financial control is exercised through a budgetary system based on the principle that all the financial needs of the Government for each fiscal year be considered at one time so that both the current condition and the prospective condition of the public treasury are clearly in evidence.

Estimates and Appropriations.—The co-ordination of the Estimates process is carried out by the Treasury Board. This Board is a separate department of government, its Minister having the designation of President of the Treasury Board. In addition to the President, the Board consists of the Minister of Finance, who serves ex officio as a member, and four other Privy Councillors. Under the Financial Administration Act, the Board may act for the Privy Council in all matters relating to financial management including estimates, expenditures, financial commitments, establishments, revenues, accounts, terms and conditions of employment of persons in the public service and general administrative policy in the public service (see also p. 139).

The Estimates for any one fiscal year are determined as a result of a two-phased review by the Treasury Board of departmental proposals for expenditure. In the spring of each year, at the request of the Secretary of the Treasury Board, each department submits to the Treasury Board a forecast of Estimates for the current and following four fiscal years. During the summer, a review of the programs giving rise to these Estimates forecasts is carried out by the Treasury Board as a result of which tentative Estimates figures are determined for each department for the coming fiscal year. The Board reviews each departmental program submission in the light of probable revenues and governmental policy generally, usually consulting the appropriate Minister and officials. Each department, using the figure resulting from this review as a guideline, develops in detail its manpower and other resource requirements and submits them to the Treasury Board late in October in the form of Main Estimates for the fiscal year beginning Apr. 1. These Estimates are analysed by the Treasury Board staff and compared with the guidelines determined during the spring program review. The Board reviews each departmental submission in the light of the current budgetary outlook. The Estimates may be rejected or reduced and unresolved differences of opinion may be referred to the Cabinet for decision. When the Board is satisfied with their substance and form, the Main Estimates are submitted to the Cabinet and later to the Governor in Council for approval and are then laid before the House of Commons.

On motion of the President of the Treasury Board, the Estimates are initially referred for consideration to the Committee of Supply, which is a committee of the whole House. However, the Estimates of most departments may then go to standing committees of the House; such estimates, after being reported upon to the House, are referred back to the Committee of Supply which alone can approve the resolution of expenditure. The consideration of the Estimates usually extends over a period of several months. Each vote is the subject of a separate resolution and Members of the House may question the Minister

* Prepared under the direction of H. R. Balls, Comptroller of the Treasury, in consultation with D. R. Yeomans, Assistant Secretary of the Treasury Board, Ottawa.

on any item but no private member or Minister on his own responsibility can introduce any new expenditure proposal or any amendment to an Estimates item that would result in an increased expenditure. When the examination of the individual items has been completed, a resolution approving the granting of moneys is referred to the Committee of Ways and Means, also a committee of the whole House. When such resolutions are passed, an appropriation Bill is introduced which, when approved by the House of Commons and the Senate, is given Royal Assent and becomes law. Grants in the Appropriation Acts are grants to the Crown and funds cannot be disbursed until the supply voted by Parliament to the Crown is released by a warrant prepared on an Order of the Governor in Council and signed by the Governor General.

As weeks or months may elapse after the commencement of the fiscal year before the main Appropriation Act is passed, funds are made available for the conduct of government functions by the passage of an interim supply Bill granting one or more twelfths of the total of each item in the Estimates. Additional interim supply Bills may be introduced if required, awaiting Parliament's detailed consideration of the Estimates. In addition, to cover any new and unforeseen requirements that might arise during the year, Supplementary Estimates may be introduced and just prior to the end of the fiscal year further Supplementary Estimates are laid before the House. These Supplementary Estimates are dealt with in the same manner as the Main Estimates.

In addition to the expenditure items included in the annual Appropriation Acts, there are a number of items, such as interest on the public debt, family allowances and old age assistance payments, which have been authorized under the provisions of other statutes. Although it is not necessary for Parliament to pass annually on these items, they are included in the Main Estimates for purposes of information. Statutory provision also exists for the expenditure of public money in emergencies where no parliamentary appropriation is available. Under the Financial Administration Act, the Governor in Council, upon the report of the President of the Treasury Board that there is no appropriation for the expenditure and upon the report of the appropriate Minister that the expenditure is urgently required, may order the issuance of a special warrant authorizing disbursement of the amount required. Such warrants may be issued only when Parliament is not in session and every warrant must be published in the *Canada Gazette* within thirty days of issue and reported to Parliament within fifteen days of assembly. The Fire Losses Replacement Account Act also provides for emergency expenditures for the urgent repair or replacement of property destroyed or damaged by fire, where there is not sufficient money available in the appropriation for the Service suffering loss. Such amounts must be charged subsequently to an appropriation or included in the Estimates for the department or agency concerned.

In addition, disbursements are made for purposes not reflected in the budgetary accounts but recorded in the Government's statement of assets and liabilities, such as loans to and investments in Crown corporations, loans to international organizations and to national, provincial and municipal governments, and loans to veterans. There are also disbursements in connection with deposit and trust accounts and annuity, insurance and pension accounts which the Government holds or administers, including the old age security fund and the Canada Pension Plan fund which are operated as separate entities. Although these disbursements are excluded from the calculation of the annual budgetary surplus or deficit, they are all subject to appropriation by Parliament either in the annual Appropriation Acts or in other legislation.

The Budget.—Some time after the Main Estimates have been introduced, the Minister of Finance presents his annual Budget Speech in the House of Commons. Budget papers, tabled for the information of Parliament at least one day prior to the presentation of the Budget, include a general review of economic conditions and a preliminary review of the Government's accounts for the fiscal year then ending. The Budget Speech itself reviews the state of the national economy and the financial operations of the Government for the previous fiscal year and gives a forecast of the probable financial requirements for

the year ahead, taking into account the Main Estimates and making allowances for Supplementary Estimates and probable lapsings. At the close of his address, the Minister tables the formal resolutions for changes in the existing tax rates and customs tariff which, in accordance with parliamentary procedure, must precede the introduction of any money Bills. These resolutions give notice of the amendments which the Government intends to ask Parliament to make in the taxation statutes. However, if a change is proposed in a commodity tax, such as a sales tax or excise duty on a particular item, it is usually made effective immediately; the legislation, when passed, is made retroactive to the date of the Speech.

The Budget Speech is delivered in support of a motion that the House go into Committee of Ways and Means, the debate on which may take up six sitting days. With the passage of the motion, the way is clear for the consideration of the Budget resolutions and, when these have been approved by the Committee, a report to this effect is made to the House and the tax Bills are introduced and thereafter dealt with in the same manner as all other government financial legislation.

Revenues and Expenditures.—The administrative procedures whereby revenues are collected and expenditures are made are, for the most part, contained in the Financial Administration Act.

With respect to revenues, the basic requirement is that all public money shall be paid into the Consolidated Revenue Fund, which is defined as the aggregate of all public money on deposit to the credit of the Receiver General. The Treasury Board has prescribed detailed regulations governing the receipt and deposit of such money. For the actual custody of public money, use is made of the Bank of Canada and the chartered banks. Balances are allocated to the various chartered banks on the basis of a percentage allocation established by agreement among all the banks and communicated to the Department of Finance by the Canadian Bankers' Association. The daily operating account is maintained with the Bank of Canada and the division of funds between it and the chartered banks takes into account the immediate cash requirements of the Government and consideration of monetary policy. The Minister of Finance may purchase and hold securities of, or guaranteed by, Canada and pay for them out of the Consolidated Revenue Fund or may sell such securities and pay the proceeds into the Fund. Thus, if cash balances in the Fund are in excess of requirements for the immediate future they may be invested in interest-earning assets. In addition, the Minister of Finance has established a purchase fund to assist in the orderly retirement of the public debt.

The principal agencies exercising control over expenditures are the Treasury Board (previously described) and the Comptroller of the Treasury, who has the status of a deputy head but is an officer of the Department of Finance, with representatives who act as accounting and disbursing officers stationed in all the principal departments.

The Treasury Board exercises detailed central control over the budgets, programs and staffs of departments and over financial and administrative matters generally. Although the most important part of this control function is exercised during the annual consideration of departmental long-range program plans and the Estimates, the Board maintains continuous control over certain types of expenditure to ensure that the scale of activities and commitments for the future is held within approved policies, that departments follow uniform, efficient and economical practices, and that the Government is informed of and approves any major development of policy or significant transaction that might give rise to public or parliamentary criticism.

To ensure that the decisions of Parliament, the Government and Ministers in regard to expenditures are enforced, there is a centralized accounting and disbursing system. The Financial Administration Act provides that no payment shall be made out of the Consolidated Revenue Fund without the authority of Parliament and no charge shall be made against an appropriation except upon the requisition of the appropriate Minister or a person authorized by him in writing. These requisitions, and certificates that the work has been performed, the material supplied or the services rendered and that the price

charged is reasonable or according to contract, together with such documents as may be required, are presented to the Comptroller of the Treasury. If the charge is a lawful one against the appropriation and does not exceed the amount of the appropriation or reduce it below the amount necessary to meet other commitments, and does not contravene any applicable legislative or executive requirements, the Comptroller will make the payment. However, if he declines to make a payment, disallows an item in an account or refuses to give a certificate, the Minister concerned may report the circumstances to the Treasury Board for decision and the Board may confirm or overrule the action of the Comptroller. The Comptroller may transmit to the Board any requisition with respect to which he desires its direction and the Board may order that payment be made or refused.

At the beginning of each fiscal year each department submits to the Treasury Board, through the Comptroller, a division into allotments of each vote included in its Estimates. Once approved by the Board, these allotments cannot be varied or amended without the approval of the Board and expenditures charged to appropriations are limited to such allotments. To avoid over-expenditures within a fiscal year, the Comptroller records and controls commitments coming in course of payment within the year for which Parliament has provided or has been asked to provide appropriations. The Government, through the Treasury Board and the Comptroller, also maintains records of commitments made under contract that will fall due in succeeding years, since it must be prepared in future to ask Parliament for appropriations to cover them. Any unexpended amounts in the annual appropriations lapse at the end of the year for which they are granted, but for thirty days subsequent to Mar. 31 payments may be made and charged to the previous year's appropriations for debts incurred prior to the end of that fiscal year.

Under the Financial Administration Act, every payment pursuant to an appropriation is made under the control and direction of the Comptroller by draft or cheque drawn on the Receiver General or by such other instrument as the Treasury Board may direct. In practice, such drafts or cheques are cleared daily by the chartered banks through the Bank of Canada to the Cheque Adjustment Division of the Comptroller's Office, and reimbursement is made by means of a cheque drawn on the Receiver General's account with the Bank of Canada.

Public Debt.—In addition to the collection and disbursement of public money for budgetary and non-budgetary purposes, the Government receives and disburses substantial sums in connection with its public debt operations. The Minister of Finance is authorized to borrow money by the issue and sale of securities at such rate of interest and subject to such terms and conditions as the Governor in Council may approve. Although the specific authority of Parliament is required for new borrowings, the Financial Administration Act authorizes the Governor in Council to approve the borrowing of such sums of money as are required for the redemption of maturing or called securities and, to ensure that the Consolidated Revenue Fund will be sufficient to meet lawfully authorized disbursements, he may also approve the temporary borrowing of such sums as are necessary for periods not exceeding six months. The Bank of Canada acts as the fiscal agent of the Government in the management of the public debt.

Accounts and Financial Statements.—Under the Financial Administration Act, accounts are kept to show the revenues of Canada, the expenditures made under and the commitments chargeable against each appropriation, the other payments into and out of the Consolidated Revenue Fund, and such of the assets and direct and contingent liabilities as the Minister of Finance believes are required to give a true and fair view of the financial position of Canada. The statement of assets and liabilities is designed to disclose the amount of the net debt, which is determined by offsetting against the gross liabilities only those assets regarded currently as readily realizable or interest- or revenue-producing. Fixed capital assets, such as government buildings and public works, are charged to budgetary expenditures at the time of acquisition or construction and are shown on the statement of assets and liabilities at a nominal value of \$1.

Annually, on or before Dec. 31 or, if Parliament is not then in session, within fifteen days after the commencement of the ensuing session, the *Public Accounts* is laid before the House of Commons by the Minister of Finance. The *Public Accounts* contains a survey of the financial transactions of the fiscal year ended the previous Mar. 31, statements of the revenues and expenditures for that year and of the assets and direct and contingent liabilities as at the end of that year, together with such other accounts and information as are necessary to show the financial transactions and financial position of Canada or which are required by law to be reported in the *Public Accounts*. Monthly financial statements are also published in the *Canada Gazette*.

The Auditor General.—The Government's accounts are subject to an independent examination by the Auditor General who is an officer of Parliament. With respect to expenditures, this examination is a post-audit for the purposes of reporting whether the accounts have been faithfully and properly kept and whether the money has been expended for the purposes for which it was appropriated by Parliament and the expenditures have been made as authorized; any audit before payment is the responsibility of the Comptroller of the Treasury. With respect to revenues, the Auditor General is required to ascertain that all public money is fully accounted for and that the rules and procedures applied are sufficient to ensure an effective check on the assessment, collection and proper allocation of the revenue. With respect to public property, he is required to satisfy himself that essential records are maintained and that the rules and procedures applied are sufficient to safeguard and control such property. The Auditor General reports to Parliament the results of his examination, calling attention to any case which he considers should be brought to the notice of the House. He also reports to Ministers, the Treasury Board or the Government any matter which in his opinion calls for attention so that remedial action may be taken promptly.

Public Accounts Committee.—It is the usual practice to refer the *Public Accounts* and the *Auditor General's Report* to the Public Accounts Committee of the House of Commons, which may review them and report its findings and recommendations to the House of Commons.

Section 2.—Departments, Boards, Commissions, etc.*

The following paragraphs indicate the functions of the various departments of government and the special boards and commissions in connection with the work of government.

Although it is not possible, owing to the limitations of space, to enumerate in this Section the details of each service or the divisions or sections of all departments, the main branches are given along with those services that differ in some quality from the larger class of subjects handled by a department. The work of many of these departments and boards is given in detail in later Chapters of this volume. The Index will be useful in locating required information.

Department of Agriculture.—This Department was established in 1867 (SC 1868, c. 53) and undertakes work on all phases of agriculture. Research and experimentation are carried out by the Research Branch; the maintenance of standards and protection of products by the Production and Marketing Branch and the Health of Animals Branch; the Canada Grain Act, as it pertains to the inspection, weighing, storage and transportation of grain, is administered by the Board of Grain Commissioners; land reclamation and development are carried out by the Prairie Farm Rehabilitation Administration; and farm income security and price stability are provided under the Crop Insurance Act, the Prairie Farm Assistance Act, the Canadian Dairy Commission Act, the Agricultural Stabilization Act and the Agricultural Products Board. The Farm Credit Corporation, the Board of Grain Commissioners and the Canadian Dairy Commission report to Parliament through the Minister of Agriculture.

* As at Sept. 30, 1967; any major changes taking place between that date and the time of going to press will be carried in an Appendix to this volume. Also, the accompanying organization chart is brought up to the latest possible date before going to press; see lower right-hand corner.

Auditor General's Office.—This Office originated in 1878 (SC 1878, c. 7) and currently functions under the Financial Administration Act (RSC 1952, c. 116). The Auditor General is responsible for examining accounts relating to the Consolidated Revenue Fund and to public property, and for reporting annually to the House of Commons the results of his examinations. He also audits the accounts of various Crown corporations and other instrumentalities.

Board of Broadcast Governors.—This Board, established under the provisions of the Broadcasting Act which was assented to on Sept. 6, 1958, is given authority to regulate radio and television broadcasting in Canada. The Board has authority to regulate the establishment and operation of both public and private broadcasting stations and networks of stations. Applications for licences to establish new broadcasting stations, for changes in the facilities of existing stations or for changes in the ownership or in the share structure of licensees are referred to the Board by the Minister of Transport for a recommendation before being dealt with. The Board has three full-time and twelve part-time members. The Secretary of State acts as spokesman for the Board in the Cabinet and the House of Commons.

Board of Grain Commissioners.—Constituted in 1912 under the Canada Grain Act (RSC 1952, c. 25), the Board of Grain Commissioners for Canada provides general supervision over the physical handling of grain in Canada by licensing elevator operators, inspecting and weighing grain received at and shipped from terminal elevators, and other services. The Board, comprising a Chief Commissioner and two Commissioners, has authority to inquire into any matter relating to the grading and weighing of grain, deductions for dockage or shrinkage, deterioration of any grain during storage or treatment, unfair or discriminatory operation of a grain elevator, etc. The Board publishes its regulations in the *Canada Gazette* and reports to Parliament through the Minister of Agriculture.

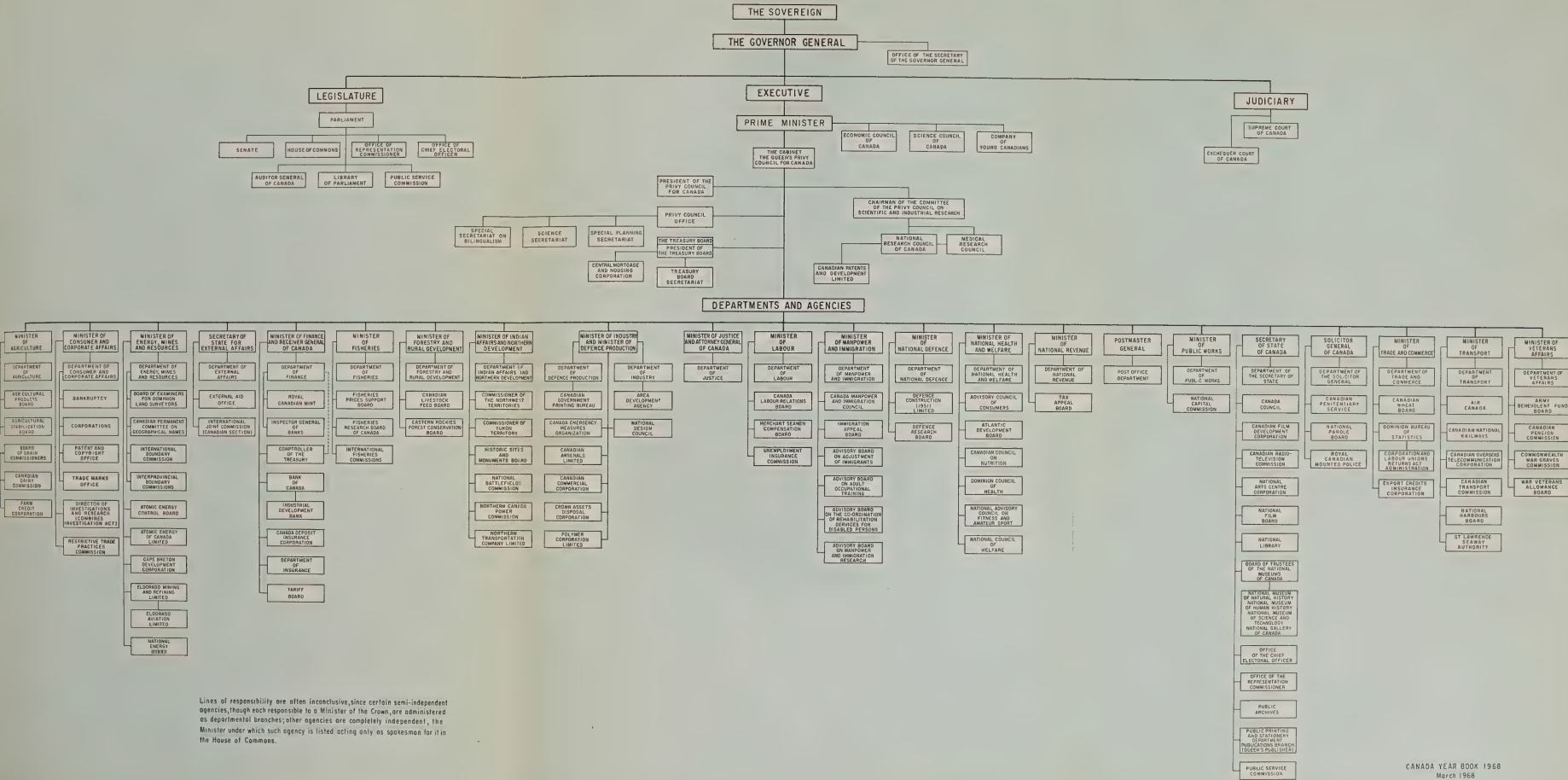
Canada Emergency Measures Organization.—This Organization was established in June 1957 to co-ordinate civil emergency planning at the federal level. Reassignments of responsibilities in this field were made by Order in Council in 1959, 1963 and 1965. In the latter year, previous Orders were revoked and replaced by the Civil Emergency Measures Planning Order PC 1965-1041, which schedules civil emergency powers, duties and functions to 12 federal departments and four agencies, under the Minister of Defence Production, to whom this responsibility had been transferred in 1963. The Planning Order directs that the Minister, through the Emergency Measures Organization, shall develop policies and a program to ensure continuity of government in an emergency; co-ordinate civil emergency planning and training by departments and agencies of the Government of Canada; plan, in conjunction with provincial authorities, for the control of civil road transport in an emergency; plan civil emergency measures in respect to matters which are not the responsibility of any department, agency or Crown corporation of the Government; provide assistance and guidance to provincial and municipal governments in civil emergency planning matters; provide general liaison with other countries and with NATO on matters relating to civil emergency planning; and be responsible for the direction and administration of the Canadian Civil Defence College (since renamed Canadian Emergency Measures College). In February 1966, the Government delegated to the Minister, through the Canada Emergency Measures Organization, responsibility for providing and co-ordinating the initial federal response to any peacetime disaster situation whether the Federal Government was either directly involved or called upon for assistance by provinces or municipalities.

Canadian Government Printing Bureau.—The printing functions formerly provided by the Department of Public Printing and Stationery were transferred by Order in Council (PC 1963-1254) dated Aug. 21, 1963, to the Department of Defence Production. The latter Department, on Apr. 1, 1964, authorized the organization of the Canadian Government Printing Bureau as a distinct function under that Department, to be separated from the former Publications Branch and the Purchasing Stationery and Stores Branch of the Department of Public Printing and Stationery.

The Canadian Government Printing Bureau, under the direction of a General Manager who reports to the Deputy Minister of Defence Production, provides a variety of printing services, such as House of Commons Debates, Votes and Proceedings, Orders of the Day and other parliamentary papers for both Houses of Parliament, and other printing requirements of government departments and agencies. All official documents are printed in English and French. The main plant, located in Hull, Que., is the largest diversified printing shop in Canada, and includes composition, varitype, letterpress, offset press, proofroom and bindery. These production facilities are complemented by Plant Engineering, Research and Industrial Engineering, Industrial Relations, and Financial Services. Smaller field units, supervised by the Production Manager (Outside Plants), handle the duplicating and short-run requirements of individual departments. These units are located throughout the Ottawa area and in major Canadian cities and National Defence establishments across the country.

Canadian Penitentiary Service.—The Penitentiary Service operates under the Penitentiary Act (SC 1960-61, c. 53) and is under the jurisdiction of the Solicitor General of Canada. It is responsible for all federal penitentiary institutions and for the care and training of persons sentenced or committed thereto. The Commissioner of Penitentiaries, under the direction of the Solicitor General, has control and management of the Service and all matters connected therewith.

THE GOVERNMENT OF CANADA



Canadian Pension Commission.—This Commission, established in 1933 by amendments to the Pension Act (RSC 1952, c. 207), replaced the Board of Pension Commissioners, the first organization created to deal solely with war pensions for service in Canada's Armed Forces. The Commission's main function is the administration of the Pension Act under which it adjudicates upon all claims for pension in respect of disability or death arising out of service in Canada's Armed Forces; and Parts I to X inclusive of the Civilian War Pensions and Allowances Act, which provide for the payment of pensions in respect of death or disability arising out of civilian service directly related to the prosecution of World War II. It also adjudicates on claims for pension under various other measures; authorizes and pays monetary grants accompanying certain gallantry awards bestowed on members of the Armed Forces; and administers various trust funds established by private individuals for the benefit of veterans and their dependants. The Commission consists of eight to twelve Commissioners and up to five *ad hoc* Commissioners appointed by the Governor in Council. Its chairman has the rank of a Deputy Head of a department and the Commission reports to Parliament through the Minister of Veterans Affairs.

Canadian Transport Commission.—The Canadian Transport Commission created in 1967 by the National Transportation Act (SC 1967, c. 69) took over powers formerly vested in the Board of Transport Commissioners, the Air Transport Board and the Canadian Maritime Commission, giving it regulatory and judicial functions with respect to almost all aspects of railway, commercial air and merchant marine services. The Act also provides for the regulation of extra-provincial motor vehicle transport and commodity (solids) pipelines. The Commission is divided into five Committees for the purposes of performing its duties under the Act: (1) The Railway Transport Committee deals with location, construction and operation of lines and with rates and fares; it also deals with the regulation of express companies, and telegraph and telephone companies (except those provincially or municipally controlled), and the tolls of international bridges and tunnels. (2) The Air Transport Committee is responsible for the economic regulation of commercial air services provided by Canadian air carriers within Canada and abroad, and by foreign carriers operating into and out of Canada. (3) The Water Transport Committee has the function of making recommendations concerning domestic and international shipping policy and the merchant marine and of co-ordinating such policies with those applying to other modes of transport; it also administers the steamship subsidies voted by Parliament. (4) The Motor Vehicle Transport Committee is responsible for the regulation of commercial interprovincial and international motor vehicle transport. Prior to the passing of the National Transportation Act, regulation of all motor vehicle transport was carried out by the provinces. (5) The Commodity Pipeline Committee controls the licensing of interprovincial and international (solids) pipelines and the regulation of pipeline tolls. Regulation of oil and gas pipelines remains the duty of the National Energy Board.

The Canadian Transport Commission is also given the responsibility for conducting investigations and research and for making recommendations on economic policy in all transportation fields in so far as the Federal Government is concerned. The Commission reports to Parliament through the Minister of Transport.

Department of Defence Production.—The Department of Defence Production was established in April 1951 by the Defence Production Act (RSC 1952, c. 62, as amended by SC 1955, c. 52). It has exclusive authority for the procurement of goods and services required by the Department of National Defence and, in addition, has the responsibility for ensuring that necessary production capacity and materials are available in Canada to support the defence production program. The Department's responsibilities also include defence development and procurement sharing with the United States, defence production activities with other members of the NATO alliance and friendly countries, and the purchasing in Canada of goods and services required by foreign governments under a variety of international agreements.

The Department acts as the central purchasing and supply agency for the Federal Government. The Canadian Government Purchasing Service has five operational Branches—Aerospace, Electrical and Electronics, Shipbuilding, Armament and Vehicles, and General Purchasing. The Canadian Government Supply Service has seven headquarters Branches—Equipment Management, Traffic Management, Cataloguing, Specifications and Standards, Quality Management, Supply Management, and Regional Purchasing with offices maintained in Canada, United States and Western Europe; the Supply Service also operates the No. 1 Supply Centre as a pilot operation within the Ottawa area.

Within the Department, a Project Management Branch has been established to initiate a program of single office project management for the direction of all major acquisition project activity, both civil and military. Projects for the development and production of new defence systems to meet the requirements of other countries are also managed by this Branch. Under this arrangement, a single officer is assigned authority and responsibility for the successful management of all aspects of the implementation phase of an individual procurement project.

The Department's international responsibilities and functions include the management and administrative support of the Canadian Commercial Corporation, the establishment of co-operative defence industrial research, and development and production arrangements with Canada's allies. These activities are directed through the medium of an International Programs Branch supported by a group of specialist personnel located in the United States, Britain, France, Germany and Italy, and in the Canadian Delegation to the North Atlantic Council.

Departmental managerial and support functions are handled by the Departmental Secretary's Branch, Personnel Branch, Comptroller's Branch, Departmental Planning and Control Group, Management Analysis Division, Customer Service Group, Contract Administration Branch, the Financial Review Branch and the Legal Adviser.

The following Crown companies and agencies report to Parliament through the Minister of Defence Production: Canadian Arsenals Ltd., Canadian Commercial Corporation, Crown Assets Disposal Corporation and the Canada Emergency Measures Organization. The Canadian Government Printing Bureau reports to the Minister through the Deputy Minister of Defence Production.

Dominion Bureau of Statistics.—The Dominion Bureau of Statistics was set up by statute in 1918 as a central statistical department for Canada (SC 1918, c. 43). In 1948 this statute, which had been consolidated as the Statistics Act (RSC 1927, c. 190), was repealed and replaced by the Statistics Act (RSC 1952, c. 257); it was amended by SC 1952-53, c. 18, assented to Mar. 31, 1953.

The function of the Dominion Bureau of Statistics is to compile, analyse and publish statistical information relative to the commercial, industrial, financial, social and general condition of the people and to conduct regularly a census of population and agriculture of Canada as required under the Act.

The Bureau is a major publication agency of the Federal Government; its reports cover all aspects of the national economy. The administrative head of the Bureau is the Dominion Statistician who has the rank of a Deputy Head of a department and reports to Parliament through the Minister of Trade and Commerce.

Department of Energy, Mines and Resources.—Under the terms of the Government Organization Act (SC 1966, c. 25), the Department of Energy, Mines and Resources supersedes the Department of Mines and Technical Surveys and encompasses certain functions formerly conducted by other departments and agencies. The Department, in addition to its administrative services, is organized into four groups: the Mines and Geosciences Group includes the Geological Survey of Canada, the Mines Branch, the Surveys and Mapping Branch and the Observatories Branch, all of which are engaged in research and the provision of information in their respective fields; the Mineral Development Group includes the Mineral Resources Division, which gathers economic data for all minerals for use of government, industry and the public and conducts administrative functions of resource management, the Explosives Division which controls, under the provisions of the Explosives Act, the production and handling of explosives, and the Quebec Regional Office; the Water Group is concerned with all types of water matters including groundwater and oceanic investigations and surveys, water pollution, water power, water conservation and control, and federal-provincial and international studies and regulations; the Energy Development Group recommends and advises on energy policies in the total context of all energy sources and future energy requirements.

The following Crown corporations report to Parliament through the Minister of Energy, Mines and Resources: the National Energy Board, the Dominion Coal Board, Atomic Energy of Canada Limited, Eldorado Mining and Refining Limited, Eldorado Aviation Limited, the Atomic Energy Control Board, Northern Ontario Pipe Line Corporation and the Cape Breton Development Corporation.

Department of External Affairs.—This Department was established in 1909 by "An Act to create a Department of External Affairs" (RSC 1952, c. 68). Its main function is the protection and advancement of Canadian interests abroad. The Minister responsible for the Department is the Secretary of State for External Affairs. The senior permanent officer (Deputy Minister) of the Department, the Under-Secretary of State for External Affairs, is assisted by a Deputy Under-Secretary and by four Assistant Under-Secretaries and is advised by the officers in charge of the various divisions. The divisional heads are each responsible for a part of the work of the Department and they are assisted by Foreign Service Officers, External Affairs Officers, other administrative officers and an administrative staff. Officers serving abroad are formally designated as High Commissioners, Ambassadors, Ministers, Counsellors, First Secretaries, Second Secretaries, Third Secretaries and Attachés at diplomatic posts and Consuls General, Consuls and Vice-Consuls at consular posts. There are 96 diplomatic, consular and other missions maintained abroad by the Department. In 49 additional countries, Canada is represented by non-resident Ambassadors or High Commissioners.

The work of the Department at Ottawa is performed by 26 divisions and two units. The divisions may be grouped into three categories—area, functional and administrative. There are six area divisions—African and Middle Eastern, Commonwealth, European, Far Eastern, Latin American and United States; 14 functional divisions—Communications, Consular, Cultural Affairs, Defence Liaison (1), Defence Liaison (2), Disarmament, Economic, Historical, Information, Legal, Passport, Press and Liaison, Protocol and United Nations; and six administrative divisions—Administrative Services, Finance, Personnel Operations, Personnel Services, Registry, and Supplies and Properties. The two units are the Inspection Service and the Organization and Methods Unit.

The International Joint Commission reports to the Secretary of State for External Affairs of Canada as well as to the Secretary of State of the United States. The Secretary of State for External Affairs reports to Parliament for the External Aid Office.

Department of Finance.—This Department was created by Act of Parliament in 1869 and now operates under the Financial Administration Act (RSC 1952, c. 116). The Department is responsible for the financial administration of Canada including the raising of money required for the various governmental activities by way of taxation or borrowing. The Comptroller of the Treasury, an officer of the Department, is responsible for all government disbursements. The work of the Department is organized into the following divisions: Tax Policy, Fiscal Policy, Federal-Provincial Relations, Social Security and Pensions, Economic Analysis, Government Finance, Tariffs, International Economic Relations, Resource Programmes, Economic Development, and International Programmes. The Royal Canadian Mint is a branch of the Department as is the Inspector General of Banks. The Tariff Board, the Bank of Canada and its subsidiary, the Industrial Development Bank, and the Department of Insurance report to Parliament through the Minister of Finance who is also the spokesman in the Cabinet and the House of Commons for the Auditor General of Canada.

Department of Fisheries.—The federal fisheries service established at Confederation functioned as a branch of other departments until formation of the Department of Fisheries under its own Minister in 1930. Fisheries are exclusively within federal jurisdiction but certain administrative responsibilities are delegated to provinces under varying arrangements.

Principal responsibilities of the Department are: conservation and protection of fisheries through enforcement of fishing regulations; cultivation and development of fish stocks by scientific and technical means; inspection of fish products for quality control; encouragement of industrial development by technical and financial aid; economics research and intelligence services to industry and the public; and promotion of fisheries and fish products by information and consumer education programs.

Agencies associated with the Department are the Fisheries Research Board of Canada and the Fisheries Prices Support Board (a Crown corporation). The Department, with headquarters in Ottawa, has regional offices in St. John's, Nfld., Halifax, N.S., Quebec, Que., Winnipeg, Man., and Vancouver, B.C. The Department is represented on the following international commissions: Pacific Salmon Fisheries, Pacific Halibut, Northwest Atlantic Fisheries, North Pacific Fisheries, Whaling, Great Lakes Fishery and North Pacific Fur Seal.

Fisheries Research Board.—The Fisheries Research Board of Canada operates under the Fisheries Research Board Act of 1937 (amended in 1947 and 1952-53). It has been active as a fisheries research body since 1898, first as the Board of Management of the Canadian Marine Biological Station and later (1912) as the Biological Board of Canada. The Board operates under the Minister of Fisheries and membership consists of a full-time chairman and not more than 18 other members. The majority of Board members are university scientists, and other members are representative of the fishing industry and the Department of Fisheries.

The Board, with headquarters in Ottawa, operates research establishments in St. John's, Nfld., Halifax and Dartmouth, N.S., St. Andrews, N.B., Ellerslie, P.E.I., Grande-Rivière and Ste. Anne de Bellevue, Que., Winnipeg, Man., Vancouver and Nanaimo, B.C. Board scientists carry out research on distribution of fish stocks, biology and life history of fishes, marine mammals and other aquatic creatures and plants, oceanography, fishing techniques, quality and nutritive value of fisheries products, with the principal objective of increasing the scope and value of Canadian fisheries.

Department of Forestry and Rural Development.—This Department was established as the Department of Forestry in October 1960 to bring under one Ministry the conduct of programs of research relating to forest management, silviculture, protection against fire, insects and disease, and the improvement in the standards of wood utilization and development of forest products. By Order in Council of Mar. 5, 1964, the responsibilities of the Minister of Forestry were expanded to include the functions formerly exercised by the Minister of Agriculture respecting certain rural development programs under the Agricultural Rehabilitation and Development Act (ARDA), the Maritime Marshland Rehabilitation Act, and the administration of the program of freight assistance and grain storage costs on western feed grains. The name of the ARDA was changed in 1966 (SC 1966, c. 11) to Agricultural and Rural Development Act (ARDA) and the name of the Department was changed under the terms of the Government Organization Act, 1966 (SC 1966, c. 25) to Department of Forestry and Rural Development.

The Forestry Branch of the Department, in addition to the above functions, carries out economic studies of the forest resources and of the forest industries. Financial assistance is offered to the provinces toward meeting specific forestry needs. The Department conducts forest surveys and provides technical assistance to other agencies of the Federal Government responsible for administration of forest lands, and co-operates with international organizations concerned with forestry in which Canada maintains membership. The Department acts as co-ordinator for the seven-agency Technical Committee for Watershed Research of the Eastern Rockies Forest Conservation Board.

The ARDA program of the Department is joined with existing programs of resource management and economic development to provide public assistance in meeting problems of physical, economic and social adjustment in rural areas. It also includes a program of soil and water conservation aimed at increasing the productivity of basic rural resources. Through a central and de-

veloping information program, the Department seeks to promote public understanding of the value of the forest resources and, in co-operation with the provinces, of the work and purpose of the ARDA program.

The Department administers the Fund for Rural Economic Development Act, 1966 (SC 1966, c. 41), which provides for the establishment of a fund for the economic and social development of special rural development areas. Under this Act the Minister of Forestry and Rural Development may, on the recommendation of the Advisory Board and with the approval of the Governor in Council, enter into an agreement with any province for the joint undertaking of a rural development program in a special rural development area, or may contribute to the cost of such a program undertaken by the province. The Advisory Board consists of not more than ten officials of departments or agencies of the Government of Canada, appointed by the Governor in Council. In early 1967, the Act was amended to increase the fund from \$50,000,000 to \$300,000,000.

The Minister of Forestry and Rural Development reports to Parliament for the Eastern Rockies Forest Conservation Board and the Canadian Livestock Feed Board.

Department of Indian Affairs and Northern Development.—The Department of Indian Affairs and Northern Development was established in June 1966 under the terms of the Government Organization Act (SC 1966, c. 25), superseding the Department of Northern Affairs and National Resources. In addition to the Financial and Management Services, the Department is divided into four Branches: the Natural and Historic Resources Branch, which administers the National Parks, the National Historic Parks and the National Historic Sites coming within the jurisdiction of the Federal Government; the Northern Administration Branch, which is responsible for the administration of various federal Acts, territorial ordinances and regulations pertaining to the Government of the Northwest Territories, for the conduct of certain business arising from the general administration of the Yukon Territory, for the administration of natural resources in those Territories, and for Eskimo affairs; the Indian Affairs Branch, which has the responsibility of assisting the Indians through programs in the fields of education, economic development, social welfare and community development so that they may share the rights and responsibilities of citizenship and participate on the basis of equality and opportunity through the full spectrum of Canadian life; and the Canadian Wildlife Service, which conducts research on the fauna of Canada and maintains liaison with other international, national, provincial and private agencies and organizations that deal with wildlife. Within the Department there is also the Resource and Economic Development Group, which is responsible for developing plans and projects designed for the management of northern non-renewable resources and the expansion of the northern economy to bring about an improvement, not only in business and industrial activity, but also in northern employment opportunities.

The Commissioner of the Northwest Territories and the Commissioner of Yukon Territory report to Parliament through the Minister of Indian Affairs and Northern Development. The Minister is also responsible to Parliament for the Northern Canada Power Commission, the National Battlefields Commission, the Historic Sites and Monuments Board of Canada which is an honorary body of recognized historians representing the various provinces, and the Northern Transportation Company Limited. The Advisory Committee on Northern Development acts in an advisory capacity to the Minister. The Deputy Minister is Chairman of the Northern Canada Power Commission.

Department of Industry.—Under the Department of Industry Act (SC 1963, c. 3), the Minister of Industry is responsible for promoting the establishment, growth, efficiency and improvement of manufacturing industries in Canada through the development and implementation of programs to assist manufacturers to adjust to changing market conditions, to help them develop new lines of production and enter new markets, and to promote greater industrial research and development as well as good design within Canadian industry.

The Department of Industry is also responsible for undertaking research and investigations on an area or regional basis and preparing programs of development for designated areas of high unemployment and slow economic growth. As a part of these programs, various Federal Government incentive measures are administered.

The Department is organized into ten industry branches: Aircraft, Chemicals, Apparel and Textiles, Electrical and Electronics, Food Products, Machinery, Materials, Mechanical Transport, Marine and Rail, and Wood Products. The Area Development Agency carries out the work associated with regional programs, and the National Design Branch, in co-operation with the National Design Council, undertakes programs to promote and encourage good design in Canadian products.

The Program Advisory Group consists of a small number of officers experienced in economics, commercial policy, industrial research and development. Their function is to advise the Department in these areas and to co-ordinate departmental programs related to them.

Department of Insurance.—The Minister of Finance is responsible for the Department of Insurance which originated in 1875 as a branch of the Department of Finance but was constituted a separate Department in 1910. It is authorized and governed by the Department of Insurance Act (RSC 1952, c. 70). Under the Superintendent of Insurance, who is the Deputy Head, the Department administers the statutes of Canada applicable to: insurance, loan and trust companies

incorporated by the Parliament of Canada; provincially incorporated insurance companies registered with the Department; British and foreign insurance companies operating in Canada; small loans companies and money-lenders; co-operative credit societies registered under the Co-operative Credit Associations Act; pension plans organized and administered for the benefit of persons employed in connection with certain federal works, undertakings and businesses; and life insurance issued to certain members of the public service prior to May 1954.

Under the relevant provincial statutes, the Department examines trust companies incorporated in the Provinces of Manitoba and New Brunswick and loan and trust companies incorporated in the Province of Nova Scotia.

International Joint Commission.—This Commission was established under a Britain-United States treaty signed Jan. 11, 1909 and ratified by Canada in 1911. The Commission, composed of six members (three appointed by the President of the United States and three by the Government of Canada), is governed by five specific Articles of the Boundary Waters Treaty of 1909. The Commission's approval is required for any use, obstruction or diversion of boundary waters affecting the natural level or flow of boundary waters in the other country; and for any works in waters flowing from boundary waters or below the boundary in rivers flowing across the boundary which raise the natural level of waters on the other side of the boundary.

Problems arising along the common frontier are also referred to the Commission by either country for examination and report, such report to contain appropriate conclusions and recommendations. In addition, questions or matters of difference between the two countries may be referred to the Commission for decision, provided both countries consent.

The Commission reports to the Secretary of State for External Affairs of Canada and to the Secretary of State of the United States.

Department of Justice.—This Department, established by SC 1868, c. 39, now operates under authority of the Department of Justice Act (RSC 1952, c. 71 as amended by SC 1960, c. 4 and SC 1966, c. 25). The Minister of Justice is the official legal adviser of the Governor General and the legal member of the Queen's Privy Council for Canada. It is his duty to see that the administration of public affairs is in accordance with law, to superintend all matters connected with the administration of justice in Canada that are not within the jurisdiction of the provincial governments, to advise upon the legislation and proceedings of the provincial legislatures and generally to advise the Crown upon all matters of law referred to him by the Crown. The Minister of Justice is, ex officio, Her Majesty's Attorney General of Canada. In this capacity it is his duty to advise the heads of the departments of the Government of Canada upon all matters of law connected with such departments, to settle and approve all instruments issued under the Great Seal of Canada, and to regulate and conduct all litigation for or against the Crown in the right of Canada.

Department of Labour.—The Department of Labour was established in 1900 by Act of Parliament (SC 1900, c. 24) and now operates under authority of the Department of Labour Act (RSC 1952, c. 72). The Department administers, under the Minister of Labour, legislation dealing with: industrial relations, investigation of disputes, etc.; fair employment practices; the regulation of fair wages and hours of labour; female employee equal pay; government annuities; government employee compensation; merchant seamen compensation; and hours of work, minimum wages, annual vacations and holidays with pay. It promotes joint consultation with industry through labour-management committees and operates a Women's Bureau. The Department publishes the *Labour Gazette* and other publications, as well as general information on labour-management, employment, manpower and related subjects.

The Merchant Seamen Compensation Board reports to the Minister of Labour. The Department is the official liaison agency between the Canadian Government and the International Labour Organization. The Unemployment Insurance Commission, the Chairman of the Board of Trustees of the Maritime Transportation Unions, the Central Mortgage and Housing Corporation and the Canada Labour Relations Board report to Parliament through the Minister of Labour. The Canada Labour Relations Board administers certain provisions of the Industrial Relations and Disputes Investigation Act.

Library of Parliament.—The Library of Parliament as such was established in 1871 (SC 1871, c. 21) although it existed earlier. It currently functions under RSC 1952, c. 166 and SC 1955, c. 35. The Library of Parliament keeps all books, maps and other articles that are in the joint possession of the Senate and the House of Commons. The Parliamentary Librarian is also responsible for the House of Commons Reading Room. Persons entitled to borrow books from the Library of Parliament are the Governor General, Members of the Privy Council, Members of the Senate and the House of Commons, Officers of the two Houses, Justices of the Supreme Court of Canada and the Exchequer Court, and members of the Press Gallery. In addition, books are lent to other libraries and government agencies and reference service is given to scholars. A special research branch serves Parliamentarians only. The Parliamentary Librarian has the rank of a Deputy Head of a department and is responsible for the control and management of the Library under the Speaker of the Senate and the Speaker of the House of Commons assisted by a Joint Committee appointed by the two Houses.

Department of Manpower and Immigration.—This Department was constituted in January 1966 by the Government Organization Act (RSC 1966, c. 25), which was proclaimed effective on Oct. 1, 1966, under the Minister of Manpower and Immigration. It is composed of two operational divisions and four support services. The Canada Immigration Division administers the Immigration Act and Regulations and is responsible for the selection and examination abroad of immigrants and their movement to Canada, and for the exclusion or deportation of undesirables.

The Canada Manpower Division is responsible for the counselling and effective placement of workers, the recruitment and placement of workers to meet industry's requirements, the occupational training of adults, manpower mobility, creation of seasonal demand for labour to stabilize employment, community adjustment of migrants and immigrants and the rehabilitation of vocationally handicapped workers. The Department also has a service which is responsible for the development and evaluation of departmental programs, research, the operation of pilot projects in training and other areas, legislation and legal services, and emergency manpower planning at the national level. Other support services are Financial and Management, Personnel, and Information.

The Canada Immigration Division, until Oct. 1, 1966, was part of the Department of Citizenship and Immigration which was renamed the Department of Manpower and Immigration; the majority of the other components of the Department were, prior to Oct. 1, 1966, under the jurisdiction of the Department of Labour. At the time of writing (July 1967) the Immigration Appeal Board, which deals with appeals made against Orders of Deportation, reports to the Minister of Manpower and Immigration. In March 1967, a new Immigration Appeal Board Act was passed providing for a new independent Appeal Board.

Department of National Defence.—The Department of National Defence and the Canadian Forces operate under the National Defence Act (RSC 1952, c. 184). The Canadian Forces are administered by the Minister of National Defence and the Associate Minister of National Defence. Since August 1964, when a single Chief of the Defence Staff was appointed, the reorganization of the Canadian Forces Headquarters, the command structure and the consolidation of the Canadian Forces Bases has been proceeding. In June 1965, a plan was announced to reduce the previous major commands in Canada to six: Maritime, Mobile, Air Transport, Air Defence, Training and Materiel. This accomplished, the stage had been reached for final steps toward a single unified force. Authority to complete these steps has been granted under the Canadian Forces Reorganization Act (SC 1967, c. 96), assented to on May 8, 1967. When necessary preparatory arrangements have been completed, this Act will be proclaimed in force and the forces thereby unified.

The Defence Research Board, created in 1947 to carry out research relating to national defence and to advise the Minister on all relevant matters of a scientific or technical nature, functions under the National Defence Act. The Crown corporation, Defence Construction (1951) Limited, reports to Parliament through the Associate Minister of National Defence.

National Energy Board.—This Board was established under the National Energy Board Act, 1959 for the broad purpose of assuring the best use of energy resources in Canada. The Board, composed of five members, is responsible for the regulation of the construction and operation of the oil and gas pipelines that are under the jurisdiction of the Parliament of Canada, the tolls charged for transmission by oil and gas pipelines, the export and import of gas and the export of electric power, and the construction of the lines over which such power is transmitted. The Board is also required to study and keep under review all matters relating to energy under the jurisdiction of the Parliament of Canada and to recommend such measures as it considers necessary and advisable on the subject. The Board reports to Parliament through the Minister of Energy, Mines and Resources.

National Film Board.—The National Film Board, established in 1939, operates under the National Film Act (RSC 1952, c. 185) which provides for a Board of Governors of nine members—a Government Film Commissioner, appointed by the Governor in Council, who is chairman of the Board, three members from the public service of Canada and five members from outside the public service. The Board reports to Parliament through the Secretary of State. The Board is responsible for advising the Governor in Council on film activities and is authorized to produce and distribute films in the national interest and, in particular, films "designed to interpret Canada to Canadians and to other nations".

Department of National Health and Welfare.—This Department was established in October 1944 under authority of the Department of National Health and Welfare Act (RSC 1952, c. 74). It was originally formed as the Department of Health in 1919 and later became part of the Department of Pensions and National Health. That Department was replaced in 1944 by the Department of National Health and Welfare and the Department of Veterans Affairs.

The Department, headed by the Minister of National Health and Welfare, is administered by two Deputy Ministers. It is composed of: Central Services which include the Research and Statistics Directorate, the Information Services Division and General Counsel; the Administration Branch; and seven other Branches—Health Services, Health Insurance and Resources, Medical Services, Food and Drug, Income Security, Welfare Assistance and Services and Special Programmes. The health Branches come under the Deputy Minister of National Health who also carries responsibility arising out of Canada's role in the international health field. The welfare Branches are the responsibility of the Deputy Minister of National Welfare.

The Department has charge of most matters relating to the promotion or preservation of the health, social security and social welfare of the people of Canada over which the Federal Parliament has jurisdiction. It administers the Acts listed in Sect. 4, p. 151, and is also responsible for: the administration of the National Health Grants Program under which grants are made available to the provinces for the development and extension of health services; the federal aspects of emergency health and welfare services; health and safety in the peaceful uses of atomic energy and other sources of radiation affecting the population; the provision of health, medical and hospital services to Indians and Eskimos and to other elements of the population in the Yukon and Northwest Territories; the provision of assistance and consultative services to other government Departments and to the provinces upon request on aerospace medicine and safety, blindness control, child and maternal health, chronic illness and aging, environmental health, mental health, dental health, nursing, medical rehabilitation, bacteriology, virology, parasitology and clinical chemistry, zoonoses, nutrition and health facilities design; the operation of a drug adverse reaction reporting program, a central clearing-house for the Canadian Poison Control Centres and a Consumer Division; the inspection and medical care of immigrants and seamen and the supervision of public health facilities on railway, water and other forms of transportation; the enforcement of regulations of the International Joint Commission relating to public health; the promotion and conservation of the health of government employees; advising the Department of Transport on the physical standards of licensed aviation personnel; the provision of medical services for and in conjunction with the Canadian Coast Guard Service; the collection, publication and distribution, subject to the provisions of the Statistics Act, of information relating to public health, improved sanitation and social and industrial conditions affecting the health of Canadians. It co-ordinates and assists international welfare activities in which Canada is engaged and administers a system of grants to the provinces for professional welfare training, welfare research and general welfare services.

National Library.—The National Library came formally into existence on Jan. 1, 1953, with the proclamation of the National Library Act (RSC 1952, c. 330). It publishes *Canadiana*, a monthly catalogue of new publications relating to Canada, with an annual cumulation. The Library also publishes other bibliographies. Its Reference Division maintains the *National Union Catalogue*, which embodies the author catalogues of the major libraries in the ten provinces and is thus a key to the book collections of the whole country. The Library's own bookstock now totals about 400,000 volumes. The National Librarian reports to Parliament through the Secretary of State.

National Parole Board.—The establishment of the National Parole Board, which was formed in January 1959, is authorized by the Parole Act (SC 1953, c. 38) by which it is given absolute jurisdiction over all matters of parole. It is composed of a chairman and four members appointed by Order in Council for a ten-year period. The Board reports to Parliament through the Solicitor General of Canada.

Department of National Revenue.—From Confederation until May 1918, customs and inland revenue Acts were administered by separate departments; after that date they were amalgamated under one Minister as the Department of Customs and Inland Revenue. In 1921 the name was changed to the Department of Customs and Excise. In April 1924 collection of income taxes was placed under the Minister of Customs and Excise and, under the Department of National Revenue Act, 1927, the Department became known as the Department of National Revenue.

The Customs and Excise Division of the Department is responsible for the assessment and collection of customs and excise duties as well as of sales and excise taxes. The Taxation Division is responsible for the assessment and collection of income taxes, gift tax, old age security tax, Part I of the Canada Pension Plan, and estate taxes for Canada and all provinces, with certain exceptions, through its 29 district taxation offices and its Taxation Data Centre.

The Minister of National Revenue is responsible to Parliament for the Tax Appeal Board.

Office of the Chief Electoral Officer.—This Office was established in 1920 under the provisions of the Dominion Elections Act, now the Canada Elections Act (RSC 1960, c. 39, and amendments thereto), and is responsible for the conduct of all federal elections as well as the elections of members of the Northwest Territories Council and of the Yukon Territory Council. In addition, it conducts any vote taken under the Canada Temperance Act. The Chief Electoral Officer is responsible directly to Parliament, the Secretary of State acting as spokesman for him in the Cabinet and the House of Commons.

Office of the Comptroller of the Treasury.—The Comptroller of the Treasury is an officer of the Department of Finance appointed by the Governor in Council. Under the authority of the Financial Administration Act, he has the statutory responsibility of ensuring that no payment out of the Consolidated Revenue Fund is made for a purpose not authorized by or in excess of an amount appropriated by Parliament and that all relevant executive regulations are observed. For this purpose, he conducts a pre-audit of all payments except those under the Travel Regulations. He also provides a cheque-issue and accounting service for all departments and is responsible for the preparation of the *Public Accounts* and other financial statements of the government.

Office of the Representation Commissioner.—This Office was established in 1963 under the provisions of the Representation Commissioner Act (SC 1963, c. 40) and is responsible for preparing maps showing the distribution of population in each province and setting out alternative proposals respecting the boundaries of electoral districts in each province. In addition, it is required to make a review and study methods of registration of electors and absentee voting used in elections of other countries. The Secretary of State acts as spokesman for the Office in the Cabinet and the House of Commons.

Post Office Department.—Administration and operation of the Canada Post Office, by virtue of the Post Office Act (RSC 1952, c. 212) and under the Postmaster General, includes all phases of postal activity, personnel, mail handling, transportation of mails by land, water, rail and air and the direction and control of financial services including the operation of money order and savings bank business.

Privy Council Office.—For administrative purposes, the Privy Council Office is regarded as a Department of Government under the Prime Minister. The Clerk of the Privy Council, under whose direction its functions are carried out, is considered as a Deputy Head and takes precedence among the chief officers of the Public Service. The authority of the Privy Council Office is to be found in Sects. 11 and 130 of the British North America Act, 1867, which constituted a Council to aid and advise in the government of Canada to be styled the Queen's Privy Council for Canada. In 1940, upon the wartime development of Cabinet committees and the consequent need for orderly secretarial procedures such as agenda, explanatory memoranda and minutes, the Principal Secretary in the Prime Minister's Office was designated Clerk of the Privy Council and First Secretary to the Cabinet. Since 1946, the Privy Council Office has been further reorganized, developed and enlarged and certain administrative functions of the Privy Council Office and the Prime Minister's Office have been closely integrated in the interests of efficiency and economy.

The organization of the Privy Council Office at present consists primarily of the Privy Council Section concerned with the examination of submissions to the Governor in Council, preparation of draft orders and regulations, circulation and filing of approved orders, and the duties of editing, registering and publishing the federal statutory regulations in Part II of the *Canada Gazette*; the Cabinet Section dealing with secretarial work for the Cabinet and for Cabinet committees and interdepartmental committees, such as the preparation and circulation of agenda and necessary documents to Ministers and recording and circulating decisions, liaison with departments and agencies of government, and the preparation of material for the Prime Minister; the Science Secretariat established in 1964 to assemble and analyse information about the Government's scientific programs and their inter-relation with other scientific activities throughout Canada; the Special Planning Secretariat established in 1965 to assess the extent and nature of the problems of poverty and inadequate opportunities in Canada, to analyse existing federal measures and to develop proposals for future federal programs aimed at overcoming inadequate economic and social opportunities; and the Special Secretariat on Bilingualism established in 1966.

The Office of the Prime Minister is organized as a Secretariat associated with the Privy Council Office and includes members of the Prime Minister's personal staff responsible for general secretarial duties, the drafting of letters, the arrangement of appointments to interview the Prime Minister or for his public appearances or for the release of his statements on matters of public interest, and assisting the Prime Minister in his parliamentary duties.

Public Archives.—The Public Archives was founded in 1872 and is administered under the Public Archives Act (RSC 1952, c. 222) by the Dominion Archivist who has the rank of a Deputy Minister and reports to Parliament through the Secretary of State. Its purpose is to assemble and make available to the public a comprehensive collection of historical source material relating to the history of Canada. Major emphasis is placed on official records of the Government and the personal papers of political leaders and other prominent figures. These are supplemented by copies of many records in the British and French archives that relate to Canada, a fine map collection, a historical library, and many prints, paintings and photographs. The Archives operates a large Records Centre in Ottawa which provides accommodation for departmental records that are seldom used and also serves as a sorting centre, preserving papers of long-term interest from obsolete files and marking useless material for destruction. Regional centres are located in Toronto and Montreal. The Archives also operates the Government's Central Microfilm Unit, which is housed in the new National Library and Archives Building.

Under the terms of the Laurier House Act (RSC 1952, c. 163) the Public Archives is responsible for the administration of Laurier House as a museum.

Public Service Commission.—Arrangements were made for civil service appointments under the first Civil Service Act of 1868 but the first Civil Service Commission was created only in 1908. This established the beginnings of the merit system which is today the cornerstone of personnel administration in the public service. The Act of 1918 gave the Commission authority to control recruitment, selection, appointment, classification and organization and to recommend rates of pay. The next Civil Service Act, passed in 1961, strengthened the principles of the merit system, clarified the Commission's role in other areas of personnel administration, and gave the staff associations the right to be consulted on matters about remuneration and conditions of employment.

The Public Service Employment Act which came into force on Mar. 13, 1967, redefined the Commission's role as the central staffing agency and extended its authority to the public service, covering certain groups of employees exempt from the previous Acts. The public service is specified in Schedule A of the Public Service Staff Relations Act. It does not include Crown corporations, such as the Canadian Broadcasting Corporation, the Central Mortgage and Housing Corporation, the Canadian National Railways and Air Canada. The new Act also reaffirmed the merit principle, at the same time permitting delegation of the Commission's authority, although not its responsibility, to Parliament. Under the Act, the Commission was relieved of responsibility for recommending rates of pay and conditions of service to the Government, for classification, and for consultation with staff associations on matters that are now the subject of collective bargaining.

Department of Public Works.—The Department was constituted in 1867 and operates under the legislative authority of the Public Works Act of Parliament. It is responsible for the management and direction of the public works of Canada and, except as specifically provided in other Acts, attends to the construction and maintenance of public buildings, wharves, piers, roads and bridges and the undertaking of dredging and protection work. Federal Government interest in the Trans-Canada Highway and the Northwest Highway System is also handled by the Department. The Department has six Regional Offices—one each at Halifax, Montreal, Ottawa, Toronto, Edmonton and Vancouver—and District Offices at other key points across the country are also maintained. Departmental organization includes the following Directorates: Programme Planning, Design, Operations, Administrative Services, Financial Services, Personnel Administration, Information Services, Fire Prevention and Legal Services.

The Minister of Public Works is also responsible to Parliament for the National Capital Commission.

Department of the Registrar General.—This Department was established by the Government Organization Act, 1966 (SC 1966, c. 25) which was proclaimed effective Oct. 1, 1966. It is presided over by the Registrar General of Canada whose duties include all matters over which the Parliament of Canada has jurisdiction relating to combines, mergers, monopolies and restraint of trade; patents, copyrights and trade marks; bankruptcy and insolvency; and corporate affairs. His functions also include the registration of all instruments issued under the Great Seal of Canada, under the Seal of the Registrar General of Canada, and most of the instruments issued under the Privy Seal of the Governor General.*

Royal Canadian Mounted Police.—The Royal Canadian Mounted Police, a civil force maintained by the Federal Government, was organized in 1873 as the North-West Mounted Police. It now operates under the Royal Canadian Mounted Police Act, 1959 and is responsible for enforcing federal laws throughout Canada. By agreement with the governments of eight provinces (all provinces except Ontario and Quebec) it is also responsible for enforcing provincial laws within those provinces and for policing many district municipalities, cities and towns. A Commissioner, appointed by the Governor in Council, has the control and management of the Force and of all matters connected therewith; he functions under the direction of the Solicitor General of Canada.

Department of the Secretary of State.—The duties, powers and functions of the Secretary of State of Canada extend to and include all matters over which the Parliament of Canada has jurisdiction, not by law assigned to any other department, branch or agency of the Government of Canada, relating to: citizenship; elections; State ceremonial, the conduct of State correspondence and the custody of State records and documents; the encouragement of the literary, visual and performing arts, learning and cultural activities; and libraries, archives, historical resources, museums, galleries, theatres, films and broadcasting.

The responsibilities of the Department of the Secretary of State include those pertaining to the administration of the following branches: Citizenship; Citizenship Registration; Education Support; National Museum of Canada; State Protocol and Parliamentary Returns; and Translation Bureau.

The Secretary of State of Canada reports to Parliament for the Centennial Commission, the National Arts Centre Corporation, the National Film Board, the National Library, the Public Archives, the National Gallery and the Office of the Queen's Printer (Publisher), and is spokesman in the Cabinet and the House of Commons for the Board of Broadcast Governors, the Canada Council, the Canadian Broadcasting Corporation, the Public Service Commission, the Office of the Chief Electoral Officer and the Office of the Representation Commissioner.

Department of the Solicitor General.—Before 1936, the Office of the Solicitor General was either a Cabinet post or a Ministerial post outside the Cabinet. From 1936 to 1945 the position did not exist, the duties of the Office being wholly absorbed by the Attorney General of Canada. The Solicitor General Act, 1945 (RSC 1952, c. 253) re-established the Solicitor General as a Cabinet officer and provided that "... The Solicitor General shall assist the Minister of Justice in the Counsel

* For transfer of these duties to the Department of Consumer and Corporate Affairs upon the establishment of the latter by Act of Parliament assented to on Nov. 27, 1967, see Appendix.

work of the Department of Justice, and shall be charged with such other duties as are at any time assigned to him by the Governor-in-Council". This legislation was repealed by the Government Organization Act, 1966 (SC 1966, c. 25), which created a new Department of the Solicitor General and assigned to the Solicitor General of Canada responsibility for the Royal Canadian Mounted Police and the Canadian Penitentiary Service. The Solicitor General also reports to Parliament for the National Parole Board, which is an independent agency. With this new legislation, the Solicitor General of Canada becomes the Cabinet Minister with primary responsibility in the fields of crime and correction.

Tariff Board.—Constituted in 1931, the Board derives its duties and powers from three statutes: the Tariff Board Act (RSC 1952, c. 261, as amended); the Customs Act (RSC 1952, c. 58, as amended); and the Excise Tax Act (RSC 1952, c. 100, as amended).

Under the Tariff Board Act, the Board makes inquiry into and reports upon any matter in relation to goods that, if brought into Canada, are subject to or exempt from duties of customs or excise taxes. Reports of the Board are tabled in Parliament by the Minister of Finance. It is also the duty of the Board to hold an inquiry under Sect. 14 of the Customs Tariff and to inquire into any other matter in relation to the trade and commerce of Canada that the Governor in Council sees fit to refer to the Board for inquiry and report.

Under the provisions of the Customs Act and the Excise Tax Act, the Tariff Board acts as a court to hear appeals from rulings of the Department of National Revenue, Customs and Excise Division, in respect of excise taxes, tariff classification, value for duty, and drawback of customs duties. Declarations of the Board on appeals on questions of fact are final and conclusive but the Acts contain provisions for appeal on questions of law to the Exchequer Court of Canada.

Tax Appeal Board.—The Tax Appeal Board (created in 1946 as the Income Tax Appeal Board) now operates under the Income Tax Act (RSC 1952, c. 148 as amended). The Board is declared by statute to be a court of record and has jurisdiction to hear and determine appeals by taxpayers against their assessment under the Income Tax Act and also appeals under the Estate Tax Act. An appeal lies from the Board to the Exchequer Court of Canada and a further appeal from that court to the Supreme Court of Canada. The Board consists of a chairman, an assistant chairman and four other members. Its offices are located at Ottawa and it hears appeals at the principal centres throughout Canada approximately twice a year and at the main centres, such as Montreal and Toronto, six times a year. The Board is under the jurisdiction of the Minister of National Revenue but is independent of the Department of National Revenue.

Department of Trade and Commerce.—The Department of Trade and Commerce has consistently expanded its services to the business community since becoming functional in 1892, almost five years after establishment was approved by an Act of Parliament. Today the Department has 227 Trade Commissioners on its staff serving at headquarters in Ottawa and at 70 posts in 49 countries abroad; this figure includes Assistant Trade Commissioners in training as well as agricultural, fisheries, timber and publicity specialists. Trade Commissioners carry such titles as Minister (Commercial), Commercial Counsellor or Commercial Secretary and hold diplomatic status if they are members of a mission maintained by the Department of External Affairs.

The Department comprises three principal services: Trade Policy governs trade relations; External Trade Promotion is responsible for the Canadian Government Travel Bureau, the Canadian Government Exhibition Commission, the Trade Commissioner Service, and the Trade Publicity and Trade Fairs and Missions Branches; the Commodities and Industries Services incorporates the Agriculture and Fisheries Branch, Industrial Materials Branch, Manufacturing Industries and Engineering Branch, and the Transportation and Trade Services Branch.

Crown corporations and agencies that report to Parliament through the Minister of Trade and Commerce include the Dominion Bureau of Statistics, the Export Credits Insurance Corporation, the Canadian Corporation for the 1967 World Exhibition, the Canadian Government Participation, 1967 Exhibition, and the Canadian Wheat Board.

Department of Transport.—The Department was created on Nov. 2, 1936 from the former Departments of Marine and of Railways and Canals, and the Civil Aviation Branch of the Department of National Defence (RSC 1952, c. 79).

The work of the Department consists of two main Services—Marine and Air. Marine Service operations include aids to navigation, nautical and pilotage services, marine agencies, secondary canals, steamship inspection, the Canadian Coast Guard, and direct supervision over 300 public harbours; 11 other harbours come under the supervision of the Department but are administered by commissions. Air Services cover the operation of the Telecommunications and Electronics, Civil Aviation, Airports and Field Operations, Construction Engineering and Architectural, and Meteorological Branches. The work of the Telecommunications and Electronics Branch includes the administration of national and international radio laws, regulations and agreements; it is also responsible for the installation, maintenance and operation of aeronautical, marine and meteorological radio-communication stations and of radio and electronics aids to marine and air navigation.

The Minister of Transport is responsible to Parliament for the following boards, commissions and Crown companies: Air Canada, the Canadian Transport Commission, the National Harbours Board, the St. Lawrence Seaway Authority, the Canadian Overseas Telecommunication Corporation, the Canadian National Railways and the Atlantic Development Board.

Treasury Board.—The Treasury Board was first established as a committee of the Queen's Privy Council for Canada by PC 3 of July 2, 1867; it was subsequently made statutory in 1869. With the Minister of Finance as Chairman, and the administrative staff (including the Secretary of the Board) provided by the Department of Finance, the Board has, from its inception, exercised surveillance, on behalf of the Governor in Council, over the financial affairs of the various departments and agencies of the Government.

By the Government Organization Act, 1966 (SC 1966, c. 25), these historic, organic links between the Minister and the Department of Finance and the Treasury Board were altered in a number of important respects. The Board was established as a separate department of government under its own Minister, the President of the Treasury Board. The membership of the Board was enlarged from six to seven, with the Minister of Finance serving *ex officio* as a member, together with five additional Privy Councillors designated by the Governor in Council. The President of the Board, in addition to assuming the duties formerly vested in the Minister of Finance as Chairman of the Board, became the Minister responsible for the new Department and, in this capacity, was given, for the first time, power to act on behalf of the Board in intervals between Board meetings. This marked an important step in the evolution of the Board from a committee of Ministers to a department of government, with certain managerial and administrative responsibilities in its own right.

The powers and duties of the Board continue to be governed by the Financial Administration Act (RSC 1952, c. 116) which was also amended in a number of important respects in 1966. The effect of these amendments was to establish the Treasury Board, even more clearly than before, as the agency of government chiefly responsible for formulating central management policy, issuing directives and guidelines, and monitoring departmental performance in a wide variety of fields. These include most financial management functions, e.g., short- and long-range expenditure forecasting, program analysis, estimates preparation, supervision and control of expenditures, leases, contracts, financial commitments, etc. Responsibility for providing leadership and stimulus to improved management performance and to the application of modern, efficient administrative methods within departments and agencies was also vested, for the first time, explicitly in the Board.

Possibly the most important change in the duties and responsibilities of the Board was in the field of personnel management. This resulted in part from the recommendations of the Royal Commission on Government Organization and in part from the designation of the Board as the principal agent of the employer in collective bargaining—a role assigned to it by the provisions of the Public Service Staff Relations Act of 1966. The Board had assigned to it, in addition to its previous duties relating to organization and establishment control, exclusive responsibility for classification, rates of pay and conditions of employment, a responsibility previously shared with the Public Service Commission, and for determining generally the policy governing personnel management in the public service. The legislation assigning these new responsibilities to the Board contemplates and provides for extensive delegation of the Board's authority to the operating departments, under terms and conditions established by the Board.

Department of Veterans Affairs.—This Department, established in 1944 (RSC 1952, c. 80), is concerned exclusively with the welfare of veterans and with the dependants of veterans and of those who died on active service. The Department provides treatment services (hospital, medical, dental and prosthetic), welfare services, education assistance, life insurance, and land settlement and home construction assistance. The Veterans' Bureau assists veterans in the preparation and presentation of pension claims.

The Canadian Pension Commission established by the Pension Act (RSC 1952, c. 207), and the War Veterans Allowance Board established by the War Veterans Allowance Act (RSC 1952, c. 340) also report to Parliament through the Minister of Veterans Affairs.

The Department has treatment institutions and facilities in a number of urban centres. It also maintains, in large cities across Canada, administrative offices, which are shared with the Canadian Pension Commission and the War Veterans Allowance Board, and an office in London, England.

War Veterans Allowance Board.—This Board, established under the authority of the War Veterans Allowance Act, 1930 (RSC 1952, c. 340 as amended) is a quasi-judicial body consisting of eight members, including a Chairman and a Deputy-Chairman, appointed by the Governor in Council. The Board administers the War Veterans Allowance Act and Part XI of the Civilian War Pensions and Allowances Act. It reports to Parliament through the Minister of Veterans Affairs. Its functions include the responsibility of ensuring that the 19 District Authorities, located in various regions throughout Canada, interpret the legislation in a fair, reasonable and equitable manner. It is also an appeal body which may consider the appeal of an appellant against the decision of a District Authority.

Section 3.—Crown Corporations

The Crown corporation form of public enterprise is not a new type of organization in Canada but in recent years, as the work of government has become more complex, greater reliance has been placed on it as the appropriate instrument for administering and managing many public services in which business enterprise and public accountability must be combined.

The use of the corporate device to harmonize public responsibility in the development of economic resources and the provision of public services with the pursuit of commercial and industrial objectives has led to the adoption of many different forms and formulas of management. The most usual practice has been to set up a corporation under the provisions of a special Act of Parliament which defines its purposes and sets forth its powers and responsibilities. However, during World War II the Minister of Munitions and Supply was authorized to procure the incorporation of companies under the federal Companies Act, 1934, or under any provincial Companies Act to which he might delegate any of the powers conferred on him under the Department of Munitions and Supply Act or any Order in Council. Under this legislation about 28 companies were created to serve a wide variety of purposes; most of these companies have since been wound up.

Following the successful experience during the war years in relying on the Companies Act for the establishment of Crown companies, similar incorporating powers were granted by an amendment to the Research Council Act and have been incorporated in the Atomic Energy Control and the Defence Production Acts.

In 1946 the Government Companies Operation Act was passed to regulate the operation of companies formed under the Companies Act. However, it was applicable only to a relatively small number of companies and, in order to establish a more uniform system of financial and budgetary control and of accounting, auditing and reporting for Crown corporations generally, Part VIII of the Financial Administration Act was enacted in 1951 and brought into operation by proclamation on Oct. 1, 1952. Upon its enactment the financial provisions of the Government Companies Operation Act were repealed.

One of the more interesting features of the later legislation is the attempt that has been made to define and classify Crown corporations.* The Act defines a Crown corporation as a corporation that is ultimately accountable, through a Minister, to Parliament for the conduct of its affairs and establishes three classes of corporation—departmental, agency and proprietary.

Departmental Corporations.—A departmental corporation is defined as a Crown corporation that is a servant or agent of Her Majesty in right of Canada and is responsible for administrative, supervisory or regulatory services of a governmental nature. The following departmental corporations are listed in Schedule B to the Financial Administration Act:—

Agricultural Stabilization Board (formerly Agricultural Prices Support Board)
Atlantic Development Board
Atomic Energy Control Board
Director of Soldier Settlement
The Director, The Veterans' Land Act
Dominion Coal Board
Economic Council of Canada
Fisheries Prices Support Board
Municipal Development and Loan Board
National Gallery of Canada
National Research Council
Unemployment Insurance Commission.

* Not all Crown corporations are subject to the provisions of the Financial Administration Act. For example, the Canadian Wheat Board, the Bank of Canada and its subsidiary the Industrial Development Bank, because of the special nature of their functions, are excluded from operations of the Crown corporations Part of the Act and are governed by their own Acts of incorporation as are also the Eastern Rockies Forest Conservation Board, a joint federal-provincial enterprise, and the Canadian Corporation for the 1967 World Exhibition. The Canada Council was set up under the Canada Council Act (assented to Mar. 28, 1957) as a Crown corporation but has been declared not an agency of the Crown and hence is not included in the Schedules to the Financial Administration Act; the same situation applies to the Science Council of Canada (assented to May 12, 1966), the Company of Young Canadians (assented to July 11, 1966) and the National Arts Centre Corporation (assented to July 15, 1966).

Agency Corporations.—An agency corporation is defined as a Crown corporation that is an agent of Her Majesty in right of Canada and is responsible for the management of trading or service operations on a quasi-commercial basis or for the management of procurement, construction or disposal activities on behalf of Her Majesty in right of Canada. The following agency corporations are listed in Schedule C to the Financial Administration Act:—

Atomic Energy of Canada Limited
Canadian Arsenals Limited
Canadian Commercial Corporation
Canadian Dairy Commission
Canadian Livestock Feed Board
Canadian National (West Indies) Steamships Limited (virtually inoperative)
Canadian Patents and Development Limited
Centennial Commission
Crown Assets Disposal Corporation
Defence Construction (1951) Limited
National Battlefields Commission
National Capital Commission (formerly Federal District Commission)
National Harbours Board
Northern Canada Power Commission.

Proprietary Corporations.—A proprietary corporation is defined as a Crown corporation that (1) is responsible for the management of lending or financial operations, or for the management of commercial or industrial operations involving the production of or dealing in goods and the supplying of services to the public, and (2) is ordinarily required to conduct its operations without parliamentary appropriations. The following proprietary corporations are listed in Schedule D to the Act:—

Air Canada (formerly Trans-Canada Air Lines)
Canada Deposit Insurance Corporation
Canadian Broadcasting Corporation
Canadian Overseas Telecommunication Corporation
Cape Breton Development Corporation
Central Mortgage and Housing Corporation
Eldorado Aviation Limited
Eldorado Mining and Refining Limited
Export Credits Insurance Corporation
Farm Credit Corporation (formerly Canadian Farm Loan Board)
National Railways, as defined in the Canadian National-Canadian Pacific Act, 1933
Northern Transportation Company Limited
Polymer Corporation Limited
St. Lawrence Seaway Authority
Seaway International Bridge Corporation Limited (formerly Cornwall International Bridge Company Limited), subsidiary to the St. Lawrence Seaway Authority.

Departmental corporations are governed by the provisions of the Financial Administration Act that are applicable to departments generally. Agency and proprietary corporations, however, are subject to the provisions of the Crown corporations Part of the Act, although, if there is any inconsistency between the provisions of that Part and those of any other Act applicable to a corporation, the Act provides that the latter prevail. There is provision in the Part for the control and regulation of such matters as corporation budgets and bank accounts, the turning over to the Receiver General of surplus money, limited loans for working-capital purposes, the awarding of contracts and the establishment of reserves, the keeping and auditing of accounts, and the preparation of financial statements and reports and their submission to Parliament through the appropriate Minister.

A further form of control is exercised by Parliament through the power to vote financial assistance. This may take different forms. For some corporations, capital may be provided by parliamentary grants, loans or advances that may subsequently be converted into capital stock or bonds; for others it may be by the issue of capital stock to be subscribed and paid for by the Government; or by the sale of bonds to either the Government or the public. A few corporations have financed all or a portion of their requirements from their own resources or earnings.

Prior to 1952, Crown corporations did not pay corporate income taxes. However, the Income Tax Act was later amended so that, in respect of financial years commencing after Jan. 1, 1952, proprietary Crown corporations pay taxes on income earned in the same manner as any privately owned corporation. One desirable result of this amendment is that the financial statements of these Crown companies are now more comparable with those of private industry, with which in some instances they are in competition, and thus it is easier to assess the relative efficiency of their operations.

The functions of the various Crown corporations are given briefly in the following paragraphs. For a number of them, further details are included in the Chapters dealing with the subjects concerned (see Index).

Agricultural Stabilization Board.—The Board was established in 1958 (SC 1957-58, c. 22) to administer the provisions of the Agricultural Stabilization Act. The Board reports to Parliament through the Minister of Agriculture and routine administrative matters are handled through departmental channels.

Air Canada.—Formerly Trans-Canada Air Lines, the Corporation was incorporated by Act of Parliament in 1937 to provide a publicly owned air transportation service, with powers to carry on its business throughout Canada and outside of Canada. Air Canada now maintains passenger, mail and commodity traffic services over nation-wide routes and also services to the United States, England, Scotland, Ireland, France, Switzerland, West Germany, Austria, Denmark, the U.S.S.R., Bermuda, the Bahamas, Jamaica, Antigua, Barbados and Trinidad. Air Canada is responsible to Parliament through the Minister of Transport.

Atlantic Development Board.—The Act establishing this Board (SC 1962-63, c. 10) received Royal Assent on Dec. 20, 1962. Under the Act and its amendments of 1963 and 1966, a \$150,000,000 Atlantic Development Fund was established that would contribute to the growth and development of the economy of the Atlantic region. The Act also required the Board, in consultation with the Economic Council of Canada to prepare an over-all co-ordinated plan for the growth of the region. The Board is composed of a chairman and ten other members appointed by the Governor in Council. At present, the Minister of National Health and Welfare acts as spokesman for the Board in the House of Commons.

Atomic Energy Control Board.—By Act of Parliament (RSC 1952, c. 11) proclaimed October 1946, the regulation and control of atomic energy in Canada was placed under the Atomic Energy Control Board. The Board reports to Parliament through the Minister of Energy, Mines and Resources.

Atomic Energy of Canada Limited.—This Crown company was incorporated in February 1952 under the Atomic Energy Control Act, 1946 (RSC 1952, c. 11) to take over from the National Research Council on Apr. 1, 1952 the operation of the Chalk River project. The main activities of the company are (a) the development of economic nuclear power, (b) scientific research and development in the atomic energy field, (c) the operation of nuclear reactors and (d) the production of radioactive isotopes and associated equipment such as Cobalt-60 beam therapy units for the treatment of cancer. The company reports to Parliament through the Minister of Energy, Mines and Resources.

Bank of Canada.—Legislation of 1934 (RSC 1952, c. 13) provided for the establishment of a central bank in Canada, the function of which is to regulate credit and currency, to control and protect the external value of the Canadian dollar and to stabilize the level of production, trade, prices and employment so far as may be possible within the scope of monetary action. The Bank acts as the fiscal agent of the Government of Canada, manages the public debt and has the sole right to issue notes for circulation in Canada. The Bank is managed by a Board of Directors appointed by the Government and composed of a Governor, a Deputy Governor and 12 Directors; the Deputy Minister of Finance is also a member of the Board. The Bank reports to Parliament through the Minister of Finance and is governed by its own Act of incorporation. (See footnote, p. 140.)

The Canada Council.—Established by Order in Council dated Apr. 15, 1957, this corporation, composed of a chairman, a vice-chairman and 19 other members, a director and an associate director, operates under the terms of the Canada Council Act, assented to Mar. 28, 1957. The function of the Council is to encourage the arts, humanities and social sciences in Canada, mainly through a broad program of fellowships and grants. Its principal sources of income are an annual grant of the Canadian Government, which amounted to \$17,000,000 for the year ending Mar. 31, 1968, and an Endowment Fund, originally of \$50,000,000, which has an annual yield of approximately \$3,500,000. In the making, managing and disposing of investments under the Act, the Council has the advice of an Investment Committee of five, including the chairman and another member of the Council. The proceedings of the Council are reported each year to Parliament through the Secretary of State. (See footnote, p. 140.)

Canada Deposit Insurance Corporation.—The Corporation was established by legislation (SC 1966-67, c. 70), which received Royal Assent on Feb. 17, 1967. It is empowered to insure Canadian currency deposits other than those of Canada, up to \$20,000 per person, in banks, federally incorporated trust and loan companies that accept deposits from the public, and in similar provincially incorporated institutions that are authorized by their provincial governments to apply for such insurance. The Corporation is also empowered to act as a lender of last resort for member institutions. The Board of the Corporation comprises a chairman, appointed by the Governor in Council, and four other directors who hold the positions of Governor of the Bank of Canada, Deputy Minister of Finance, Superintendent of Insurance and Inspector General of Banks.

Canadian Arsenals Limited.—This company was established under the Companies Act by Letters Patent dated Sept. 20, 1945 and is subject to the Government Companies Operation Act (RSC 1952, c. 133) and certain provisions of the Financial Administration Act (RSC 1952, c. 116). The company was set up to take over and operate Crown-owned plants and equipment. It manufactures small arms and ammunition components and has extensive facilities for the filling and assembly of artillery ammunition, mines, bombs, grenades, rockets and other specialties up to torpedo warheads. Its Divisions, together with the locations of their plants, are as follows: Small Arms Division (Long Branch, Ont.) and Filling Division (St. Paul l'Ermite, Que.). The company reports to Parliament through the Minister of Defence Production.

Canadian Broadcasting Corporation.—The CBC functions under the Broadcasting Act, 1958, which continues the Corporation as a Crown agency charged with the operation of a national broadcasting service. It has the authority to maintain and operate broadcasting stations and networks and to originate and secure programs from within and outside Canada. This national radio and television service is financed through annual grants from Parliament and revenues from commercial operations.

The Corporation consists of 11 directors appointed by the Governor in Council and chosen to give representation to the principal geographical divisions of the country. The Secretary of State acts as spokesman for the Corporation in the Cabinet and the House of Commons. The President and Vice President are full-time executives appointed for a period of seven years; the other nine Directors are appointed for periods of three years and may serve two consecutive terms. The President is the chief executive of the Corporation and, with the Vice President, is responsible for the conduct of the affairs of the Corporation. As the chief executive, the President receives, interprets and applies the policies and directives of the Directors of the Corporation and establishes administrative and operating policies to control the activities of all operating units—English Networks, French Networks, Regional Broadcasting and the International Service—and of corporate staff departments—Programming, Planning, Engineering, Finance and Administration.

In practice, attention of the President is directed primarily to the broad fields of corporate policy, long-range planning and financing. He reports on activities to the Directors of the Corporation and the conduct of relations with Parliament, the Board of Broadcast Governors and the public. The Vice President assists the President in his role of chief executive by assuming primary responsibility for the current operations of the Corporation.

The Corporation's Head Office is situated in Ottawa. Headquarters for English Networks is located in Toronto and for French Networks in Montreal and Regional Headquarters are situated in St. John's for Newfoundland, Halifax for the Maritime Provinces, Winnipeg for the Prairie Provinces, and Vancouver for British Columbia. Headquarters for the Northern and Armed Forces Services is in Ottawa and that for the International Service is in Montreal.

Canadian Commercial Corporation.—Established in 1946 by Act of Parliament, the Canadian Commercial Corporation is wholly owned by the Government of Canada. Initially it assumed the undertakings of the then Canadian Export Board covering procurement in Canada of goods and services on behalf of foreign Governments and United Nations relief agencies. In 1947 responsibility for procurement of the requirements of the Department of National Defence was transferred from the Department of Reconstruction and Supply to the Corporation which fulfilled these additional functions until the formation of the Department of Defence Production in 1951. In 1963 the staff of the Corporation was integrated with that of the Department of Defence Production which now provides all the management and services required by the Corporation.

The Corporation continues to act primarily as the Canadian Government contracting and procurement agency on behalf of foreign countries desirous of purchasing defence or other supplies and services from Canada on a government-to-government basis. It reports to Parliament through the Minister of Defence Production.

Canadian Dairy Commission.—This Commission, which reports to Parliament through the Minister of Agriculture, was established on Dec. 2, 1966 (SC 1966, c. 34) to provide efficient producers of milk and cream with the opportunity of obtaining a fair return for their labour and investment and to provide consumers of dairy products with a continuous and adequate supply of dairy products of high quality. The Commission has three members appointed by the Governor in Council and operates with the advisory assistance of a nine-member Consultative Committee appointed by the Minister.

Canadian Corporation for the 1967 World Exhibition.—This Corporation was established by Act of Parliament (SC 1962-63, c. 12) to plan, organize, hold and administer the Canadian Universal and International Exhibition, Montreal 1967, which was held during the period Apr. 28 to Oct. 29, 1967. The Exhibition was of the First Category as described in the rules of the International Bureau of Exhibitions and was the first of this type to be held in the Americas. The Corporation was headed by a commissioner general, a deputy commissioner general and a general manager and reported to Parliament through the Minister of Trade and Commerce.

Expo 67, as the Exhibition was popularly known, was situated on two man-made islands in the St. Lawrence River—Île Notre Dame and Île Ste. Hélène—which were linked to a third area on MacKay Pier. The Exhibition during its six months of activity attracted more than 50,000,000 visitors, a record for any Exhibition held for a similar period.

The Corporation's existence will terminate during 1968 and its assets disposed of among the three participating governments. The Mayor of Montreal announced that it is the intention of the City of Montreal to utilize the two islands for the conduct of an annual exhibition.

Canadian Livestock Feed Board.—This corporation was established by SC 1966-67, c. 52 to provide assistance to livestock feeders in Eastern Canada and British Columbia by ensuring availability of feed grain, adequate storage space and reasonable stability in feed grain prices. The Board may consist of three to five members appointed by the Governor in Council and will have the assistance of an Advisory Committee of five to seven members, also appointed by the Governor in Council. The Board reports to Parliament through the Minister of Forestry and Rural Development.

Canadian National Railways.—The Canadian National Railway Company was incorporated (SC 1919, c. 13) to operate and manage a national system of railways, including the Canadian Northern Railway System, the Canadian Government Railways and all lines entrusted to it by Order in Council. In 1923 the Grand Trunk Railway Company of Canada was amalgamated with the Canadian National Railway Company and since 1923 a number of railway lines acquired by the Government have been entrusted to the Company for operation and management, including the Newfoundland Railway and steamship services in 1949, the Temiscouata Railway in 1950, and the Hudson Bay Railway and the Northwest Communication System in 1958. The Canadian National Railways Act, 1919 was repealed in 1955 and the Canadian National Railways Act (SC 1955, c. 29) substituted therefor.

The Canadian National Railway Company is controlled by a chairman and board of directors appointed by the Governor in Council, who report to Parliament through the Minister of Transport.

Canadian Overseas Telecommunication Corporation.—This Crown company was created on Dec. 10, 1949 by Act of Parliament (RSC 1952, c. 42) to acquire for public operation external telecommunication assets in Canada, in keeping with the Commonwealth Telegraph Agreement signed May 11, 1948. This Agreement was designed to bring about the consolidation and strengthening of the radio and cable communication systems of the Commonwealth. The Corporation is responsible to Parliament through the Minister of Transport.

Canadian Patents and Development Limited.—Canadian Patents and Development Limited is a Crown corporation set up in 1947, pursuant to authority granted in an amendment to the Research Council Act passed in 1946. The primary purpose of the company, which is a subsidiary of the National Research Council, is to make available to industry, through licensing arrangements commercial inventions originating in the NRC laboratories. The company also handles inventions referred to it from the research establishments of Federal Government departments and agencies, Canadian universities, and provincial research councils. Any profits that the company may derive from licensing arrangements are used for further research and development. The company's Board of Directors is composed of representatives of the National Research Council of Canada, government departments and agencies, industry and the universities. The company reports to Parliament through the Minister of Industry in his capacity as Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Canadian Wheat Board.—The Board was incorporated in 1935 under the Canadian Wheat Board Act to market, in an orderly manner, in the interprovincial and export trade, grain grown in Canada. Its powers include authority to buy, take delivery of, store, transfer, sell, ship or otherwise dispose of grain. Except as directed by the Governor in Council, the Board was not originally authorized to buy grain other than wheat but, since Aug. 1, 1949, it may also buy oats and barley if authorized to do so by Regulation approved by the Governor in Council. Only grain produced in the designated area, which includes Manitoba, Saskatchewan, Alberta and parts of British Columbia and Ontario, is purchased by the Board, which controls the delivery of grain into elevators and railway cars in that area as well as the interprovincial movement and export of wheat, oats and barley generally. The Board is governed by its own Act of incorporation (see footnote, p. 140). It reports to Parliament through the Minister of Trade and Commerce.

Cape Breton Development Corporation.—By agreement between the Governments of Canada and Nova Scotia, this Crown corporation was established by Act of Parliament (SC 1967, c. 6), assented to on July 7, 1967. Its functions are first to acquire the interests of the major coal producer in the Sydney coalfield and then to reorganize and operate the mines with a view to the rationalization of coal production therefrom and the progressive withdrawal of the Corporation from such production in accordance with a plan to be submitted for the approval of the Governor in Council within one year. The plan should take into account progress in providing employment outside the coal-producing industry and in broadening the base of the Island's economy.

The Corporation consists of a Board of Directors comprised of a chairman and a president appointed by the Governor in Council after consultation with the Lieutenant-Governor in Council of Nova Scotia, and five other directors, two of whom are appointed on the recommendation of the Lieutenant-Governor in Council of Nova Scotia. The Corporation is responsible to Parliament through the Minister of Energy, Mines and Resources.

Centennial Commission.—The Centennial Commission is a Crown corporation established by Parliament (SC 1960-61, c. 60, as amended) and responsible for the co-ordination and administration of projects relating to the Centennial of Confederation in Canada. It consists of a commissioner, an associate commissioner and not more than 12 directors, each of whom is appointed by the Governor in Council. The Commission is responsible to Parliament through the Secretary of State.

Central Mortgage and Housing Corporation.—This Corporation was incorporated by Act of Parliament (RSC 1952, c. 46) in December 1945 to administer the National Housing Acts. Under the National Housing Act, 1954 (SC 1953-54, c. 23, as amended), the Corporation insures mortgage loans made by approved lenders and makes direct loans for new and existing home-ownership housing, new rental housing and existing home-ownership and rental housing in designated urban renewal areas; guarantees home improvement loans made by banks; undertakes subsidized rental housing projects and land assembly developments under federal-provincial arrangements; offers loans and subsidies for public housing projects; makes loans for land assembly projects to be used for public housing; makes loans to non-profit housing companies for low-rental housing projects; makes loans for students' housing projects and to provinces and municipalities for sewage treatment projects designed to eliminate water and soil pollution; makes contributions and loans to provinces and municipalities for urban renewal operations; conducts housing research; encourages urban planning and owns and manages rental housing units including those built for war workers and veterans. The Corporation arranges for and supervises construction of housing projects on behalf of the Department of National Defence and other government departments and agencies. The Corporation is responsible to Parliament through the Minister of Labour.

Company of Young Canadians.—The Act establishing this corporation (SC 1966, c. 36) was assented to on July 11, 1966. The corporation consists of a Council of the Company and persons who are volunteer-members. The Council has 15 members, 10 of whom are elected by the volunteer-members and five of whom are appointed by the Governor in Council. Term of office for both elected and appointed members is three years. The Act provides for the establishment of an Interim Council of not more than 20 members to hold office until the members of the Council are elected or appointed. The objects of the Company are to support, encourage and develop programs for social, economic and community development in Canada or abroad through voluntary service. The corporation reports to Parliament through the Prime Minister.

Crown Assets Disposal Corporation.—This Corporation, successor to War Assets Corporation, was established under the Surplus Crown Assets Act (RSC 1952, c. 260) and is subject to the Financial Administration Act (RSC 1952, c. 116). The Corporation's function is to dispose of surplus Crown assets. It is responsible to Parliament through the Minister of Defence Production.

Defence Construction (1951) Limited.—Defence Construction (1951) Limited, reporting to the Minister of National Defence, is the Crown agency that procures for the Department of National Defence the construction and repair of buildings, structures and engineering works and professional engineering and architectural services.

The forerunner of the present company, Defence Construction Limited, began its operation in November 1950 as a Crown agency responsible for awarding and supervising defence construction projects. Defence Construction (1951) Limited, incorporated July 12, 1951, under authority of the Defence Production Act, took over the responsibilities of the former agency. The company reported to the Minister of Trade and Commerce until Apr. 1, 1951, and from that date until Apr. 22, 1965 it reported to the Minister of Defence Production; it is now under the control and supervision of the Minister of National Defence.

The company's prime responsibility in carrying out all new construction and repair and renovation projects (except work under \$10,000 which is contracted for by the Department of National Defence via the Department of Defence Production) includes: participation in preparation of design; calling and reviewing of tenders; award and administration of contracts; supervision of construction work; and certification of progress claims for work completed. Activities cover four distinct spheres: defence projects in Canada for the Department of National Defence; all defence projects in Europe for the Department of National Defence under the North Atlantic Treaty Organization

Agreement; defence construction for the United States Government in Canada; and, by arrangement, acting as the contract agents or technical advisers on the rendering of assistance to other federal departments and agencies.

In addition to the head office located at Ottawa, branch offices are maintained at Halifax, Montreal, Toronto, Winnipeg and Vancouver in Canada and in Lahr, Germany.

Director of Soldier Settlement and Director of the Veterans' Land Act.—The Director of Soldier Settlement (under the Act of 1919) is also the Director of the Veterans' Land Act, and in each capacity is legally a corporation sole. For administrative purposes, however, the programs carried on under both Acts constitute integral parts of the services provided by the Department of Veterans Affairs.

Dominion Coal Board.—The Board, established as a department in 1947 by the Dominion Coal Board Act (RSC 1952, c. 86), has the responsibility of studying and recommending to the Government policies concerning the production, import, distribution and use of coal. The Chairman has the status of a Deputy Minister and the Board reports to Parliament through the Minister of Energy, Mines and Resources. The Board administers transportation and other subventions relating to coal and also administers loans authorized under the Coal Production Assistance Act (RSC 1952, c. 173, as amended).

Eastern Rockies Forest Conservation Board.—The Board was appointed in 1947 under the Eastern Rocky Mountain Forest Conservation Act which authorized an agreement between the Government of Canada and the Province of Alberta relating to the protection and conservation of the forests of that portion of the eastern slope of the Rocky Mountains which gives rise to the major tributaries of the Saskatchewan River. Its function is to determine the policy necessary to obtain the greatest possible flow of water in the Saskatchewan River system. The planning of programs of forest use and conservation is a joint duty of the Board and the provincial Forest Service; the administration of the conservation area is a function of the province. In April 1962, a Technical Co-ordinating Committee for Watershed Research was established to undertake study of the related needs defined by the Board. The Committee's programs, undertaken by seven co-operating agencies of the Federal and Alberta Governments, are co-ordinated by an officer of the federal Department of Forestry and Rural Development.

Funds for capital expenditures during the first seven years of the agreement were provided by the Federal Government with maintenance expenditures being paid by the Province of Alberta. In 1955 the province undertook the responsibility of financing both capital improvements and maintenance work. Currently, one member of the three-man Board is appointed by the Federal Government and the province has the right to appoint two members. The choice of one of the three members as Board chairman is vested in the province. The Board reports to Parliament through the Minister of Forestry and Rural Development. (See footnote, p. 140.)

Economic Council of Canada.—This corporation, established under legislation passed on Aug. 2 1963 (SC 1963, c. 11), consists of a full-time chairman and two full-time directors appointed for a term not to exceed seven years and not more than 25 additional members to serve part-time and without remuneration. The Council is to be as representative as possible of labour, agriculture and primary industries, secondary industry and commerce, and the general public. Its functions are to advise and recommend measures that will achieve in Canada the highest possible levels of employment and efficient production so that the country may enjoy a high and consistent rate of economic growth and that all Canadians may share in rising living standards; to carry on the duties of the former National Productivity Council which were to promote and expedite continuing improvement in productive efficiency in the various aspects of Canadian economic activity; and to publish an annual review of medium- and long-term economic prospects and problems. The Council reports to Parliament through the Prime Minister.

Eldorado Aviation Limited.—This company was incorporated Apr. 23, 1953 to carry air traffic, both passenger and freight, for Eldorado Mining and Refining Limited and its wholly owned subsidiary, Northern Transportation Company Limited. It reports to Parliament through the Minister of Energy, Mines and Resources.

Eldorado Mining and Refining Limited.—Set up in 1944 under the name of Eldorado Mining and Refining (1944) Limited (the date was omitted from the name in June 1952), the company's business is the mining and refining of uranium and the production of nuclear fuels in Canada. The company has also entered into contracts for the purchase of uranium concentrates from private producers in Canada. It reports to Parliament through the Minister of Energy, Mines and Resources.

Export Credits Insurance Corporation.—This Corporation commenced operations in 1945 under the Export Credits Insurance Act, 1944 (RSC 1952, c. 105, as amended) and is administered by a Board of Directors (including the Deputy Minister of Trade and Commerce and the Deputy Minister of Finance) with the advice of an Advisory Council. Its function is to insure Canadian exporters against non-payment by foreign buyers arising out of credit and political risks involved in foreign trade. The Corporation is also authorized to provide financing in respect of an export transaction involving extended credit terms. It reports to Parliament through the Minister of Trade and Commerce.

Farm Credit Corporation.—This Corporation was established on Oct. 5, 1959 (SC 1959, c. 43) for the purpose of providing for the extension of long-term mortgage credit to farmers. The Corporation also administers the Farm Machinery Syndicates Credit Act and is responsible to Parliament through the Minister of Agriculture.

Fisheries Prices Support Board.—The Board was set up under the Fisheries Prices Support Act of 1944 (RSC 1952, c. 120) to recommend to the Government price support measures when severe price declines occur. The Board functions under the direction of the Minister of Fisheries and consists of a chairman, who is a senior officer of the Department of Fisheries, and five members chosen from private and co-operative firms in the industry. The Board has authority to buy fishery products and to sell or otherwise dispose of them or to pay producers the difference between a price prescribed by the Board and the average price the product actually commands.

Industrial Development Bank.—The Bank, a subsidiary of the Bank of Canada, was incorporated in 1944 to provide loans to industrial enterprises where financing is not available through recognized lending organizations. (See footnote, p. 140.)

Medical Research Council.—Established in November 1960, this Council operates as a virtually autonomous unit within the administrative framework of the National Research Council. It is composed of a chairman, a secretary and 15 members who serve for a three-year term, renewable once. The primary aim of the Council is the development of medical research and the support of medical research workers in the university centres of Canada. It reports to Parliament through the Minister of Industry in his capacity as Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

National Arts Centre Corporation.—The Act establishing this Corporation (SC 1966, c. 48) was assented to July 15, 1966. The Corporation consists of a Board of Trustees composed of a chairman, a vice-chairman, the Mayors of Ottawa and Hull, the Director of the Canada Council, the President of the Canadian Broadcasting Corporation, the Government Film Commissioner and nine other members appointed by the Governor in Council for terms not exceeding three years, except for the first appointees whose terms range from two to four years. The objects of the Corporation are to operate and maintain the National Arts Centre, to develop the performing arts in the National Capital Region and to assist the Canada Council in the development of the performing arts elsewhere in Canada. The Corporation reports to Parliament through the Secretary of State.

National Battlefields Commission.—This Commission was established by Act of Parliament in 1908 to preserve the Historic Battlefields at Quebec City. The Commission is composed of nine members, seven appointed by the Federal Government and one each by the Provinces of Ontario and Quebec. The Commission is supported by annual appropriations of the Federal Government and is responsible to Parliament through the Minister of Indian Affairs and Northern Development.

National Capital Commission.—This Commission is a Crown agency created by the National Capital Act (SC 1958, c. 37), proclaimed Feb. 6, 1959. It is the lineal descendant of the Federal District Commission. The Commission is served by a full-time paid chairman and comprises a total of 20 members representative of the ten provinces of Canada. Its work force fluctuates between 600 and 850, depending on the season.

Co-ordination and development of public lands in the National Capital Region are undertaken by direct planning and construction by the Commission's staff; by co-operation with municipalities; by provision of planning aid or financial assistance in municipal projects; and by advising the Department of Public Works on the siting and appearance of all Federal Government buildings in the 1,800-sq. mile National Capital Region. The Commission reports to Parliament through the Minister of Public Works.

National Gallery of Canada.—The beginnings of the National Gallery of Canada are associated with the founding of the Royal Canadian Academy of Arts in 1880. The Marquis of Lorne, then Governor General, had recommended and assisted the founding of the Academy. One of the three tasks he assigned to that institution was the establishment of a National Gallery at the seat of government. By Act of Parliament in 1913, re-enacted in 1951, the National Gallery was placed under the management of a Board of Trustees appointed by the Governor General in Council and now operates under the National Gallery Act (RSC 1952, c. 186). It is responsible to Parliament through the Secretary of State.

The first charge of the National Gallery is the development, care and display of the national art collections and the encouragement of the interest of the Canadian public in the fine arts. Its services to the public include a large reference library on the history of art and related subjects; an Exhibition Extension Branch through which travelling exhibitions, lectures and the showing of art films, and guided tours of the Gallery at Ottawa are conducted; the production of art publications and reproductions; and a National Conservation Research Laboratory.

National Harbours Board.—The Board was established by Act of Parliament in 1936. It is responsible for the administration of port facilities at the harbours of St. John's, Nfld.; Halifax, N.S.; Saint John, N.B.; Chicoutimi, Quebec, Trois-Rivières and Montreal, Que.; Vancouver, B.C.;

and Churchill, Man.; the Jacques Cartier and Champlain Bridges at Montreal, Que.; and the grain elevators at Prescott and Port Colborne, Ont. The Board reports to Parliament through the Minister of Transport.

National Research Council of Canada.—This is an agency of the Canadian Government established in 1916 to promote scientific and industrial research. The Council operates science and engineering laboratories in Ottawa, Halifax and Saskatoon; gives direct financial support to research carried out in Canadian university and industrial laboratories; sponsors Associate Committees co-ordinating research on specific problems of national interest; and develops and maintains the nation's primary physical standards. Other activities include the provision of free technical information to manufacturing concerns; the publication of research journals; and representation of Canada in International Scientific Unions. Patentable inventions developed in the Council's laboratories are made available for manufacture through a subsidiary company, Canadian Patents and Development Limited (see p. 144). The National Research Council consists of a president, three vice-presidents, and 17 members representing Canadian universities, industry and labour. The Council is incorporated under the Research Council Act (RSC 1952, c. 239, as amended), and reports to Parliament through the Minister of Industry in his capacity as Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Northern Canada Power Commission.—The Commission was established by Act of Parliament in 1948 (RSC 1952, c. 196) to provide power to points in the Northwest Territories where a need developed and where power could be supplied on a self-sustaining basis; the Act was amended in 1950 to give the Commission authority to provide similar services in the Yukon Territory. The name of the Commission (formerly the Northwest Territories Power Commission) was changed in 1956. It is composed of a chairman and two members appointed by the Governor in Council and reports to Parliament through the Minister of Indian Affairs and Northern Development.

The Commission operates three hydro-electric plants in the Northwest Territories (two on the Snare River near Yellowknife and one on the Taltson River near Fort Smith) and two hydro plants in the Yukon Territory (one on the Yukon River at Whitehorse and the other on the Mayo River near Mayo). Diesel-electric plants and distribution systems are operated at Fort Smith, Fort Simpson, Fort Resolution and Cambridge Bay, N.W.T., at Dawson, Y.T. and at Field, B.C.; diesel-electric power and central heating plants at Inuvik and Frobisher Bay, N.W.T., and at Moose Factory, Ont.; and water supply and sewerage systems at Inuvik and Moose Factory. The Commission also operates in the Northwest Territories, on behalf of the Department, diesel-electric plants at Fort McPherson and Aklavik, and heating plants and domestic water supply and sewerage systems at Fort McPherson and Fort Simpson.

Northern Transportation Company Limited.—This Company was incorporated in 1947 under the title of Northern Transportation Company (1947) Limited, the date being omitted from the name in 1952. Previously a Company chartered under an Alberta statute, it has been a wholly owned subsidiary of Eldorado Mining and Refining Limited since that Crown company was established and carries out the business of a common carrier in the Mackenzie River watershed and western Arctic. The Company is responsible to Parliament through the Minister of Indian Affairs and Northern Development.

Polymer Corporation Limited.—This Corporation was incorporated in 1942 by Letters Patent and is subject to the Government Companies Operation Act (RSC 1952, c. 133) and the Financial Administration Act (RSC 1952, c. 116). Its head office and main plant are located at Sarnia, Ont., where it produces synthetic rubbers, latices, resins and related products. A subsidiary operation for the production of butyl is located in Belgium, and another subsidiary in France is responsible for production of general purpose and specialty rubbers for the European market. An international marketing subsidiary is located in Switzerland. The Company reports to Parliament through the Minister of Defence Production.

Science Council of Canada.—The Act establishing the Science Council of Canada (SC 1966, c. 19) received assent on May 12, 1966. The Council consists of 25 members each having a specialized interest in science or technology and four associate members chosen from among officers or employees of the Federal Government. Members hold office for not more than three years and associate members hold office during pleasure. All are appointed by the Governor in Council. The duties of the Science Council are to assess in a comprehensive manner Canada's scientific and technological resources, requirements and potentialities and to make recommendations thereon. The Council reports to Parliament through the Prime Minister.

St. Lawrence Seaway Authority.—The St. Lawrence Seaway Authority was established by Act of Parliament in 1951 (RSC 1952, c. 242) and came into force by proclamation on July 1, 1954. The Authority was incorporated for the purposes of constructing, maintaining and operating all such works as may be necessary to provide and maintain, either wholly in Canada or in conjunction with works undertaken by an appropriate authority in the United States, a deep waterway between the Port of Montreal and Lake Erie. The Crown corporation, Seaway International Bridge Corporation Limited, is subsidiary to the St. Lawrence Seaway Authority. The Authority is composed of a president, a vice president and a member, and reports to Parliament through the Minister of Transport.

Unemployment Insurance Commission.—The Commission was established under the provisions of the Unemployment Insurance Act, 1940, now the Unemployment Insurance Act, 1955 (SC 1955, c. 50). It is responsible for the administration of the Unemployment Insurance Act and for such other duties and responsibilities as the Governor in Council, on the recommendations of the Minister of Labour, requires. Its general functions are to provide for the compulsory insurance of employed persons with certain exceptions and, subject to regulations, to provide such persons with weekly payments for limited periods if they become unemployed.

The Commission has three Commissioners, one of whom is the Chief Commissioner, and operates at three levels—a head office in Ottawa, five regional offices, and a number of area and district offices across the country. It reports to Parliament through the Minister of Labour.

Section 4.—Acts Administered by Federal Departments*

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada

NOTE.—Copies of individual Acts of Parliament may be obtained from the Queen's Printer, Ottawa, at prices of from 15 cents and up, according to number of pages. Where duplications of certain Acts appear in the list, parts of these Acts are administered by the Departments given.

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Agriculture—		Defence	
RSC 1952	4 Agricultural Products Board	Production—	
	5 Agricultural Products Co-operative Marketing	RSC 1952	35 Canadian Commercial Corporation
	6 Agricultural Products Marketing		62 Defence Production
	9 Animal Contagious Diseases		260 Surplus Crown Assets
22, 305	Canada Dairy Products	1963	3 Department of Industry
25, 308	Canada Grain		
47	Cheese and Cheese Factory Improvement	Energy, Mines and Resources—	
52, 313	Cold Storage	RSC 1952	11 Atomic Energy Control
66	Department of Agriculture		26 Canada Lands Surveys (except Part III)
81	Destructive Insect and Pest		34 Canadian Coal Equality
101	Experimental Farm Stations		73 Resources and Technical Surveys
126	Fruit, Vegetables and Honey		86 Dominion Coal Board
141	Hay and Straw Inspection		95 Emergency Gold Mining Assistance
155	Inspection and Sale		102 Explosives
167	Live Stock and Live Stock Products		173 Coal Production Assistance
168	Live Stock Pedigree	1952-53	21 Canada Water Conservation Assistance
172	Maple Products Industry	1955	47 International River Improvements
177	Meat and Canned Foods	1956	10 Northern Ontario Pipe Line Crown Corporation
180	Milk Test	1957-58	25 Atlantic Provinces Power Development
209	Pest Control Products	1959	46 National Energy Board
213	Prairie Farm Assistance		
214	Prairie Farm Rehabilitation (amended 1955, c. 39)	External Affairs—	
294	Wheat Co-operative Marketing	1911	28 Respecting the International Boundary Waters Treaty and the existence of the International Joint Commission (amended 1914, c. 5, and 1922, c. 43)
1955	27 Canada Agricultural Products Standards		71 Carrying into effect the Treaties of Peace between Canada and Italy, Rumania, Hungary and Finland
	36 Meat Inspection	1943	50 Carrying into effect the Treaty of Peace between Canada and Japan
1957	27 Fertilizers		68 Department of External Affairs
1957-58	22 Agricultural Stabilization		122 Food and Agriculture Organization of the United Nations
1959	35 Seeds		142 High Commissioner in the United Kingdom
	42 Crop Insurance		218 Privileges and Immunities (NATO)
	43 Farm Credit (amended 1960-61, c. 36, 1962-63, c. 7 and 1964, c. 12)		
	44 Humane Slaughter of Food Animals		
1960	14 Feeds		
1964-65	29 Farm Machinery Syndicates Credit		
1966-67	34 Canadian Dairy Commission		
	52 Livestock Feed Assistance		
Auditor General—			
RSC 1952	116 Financial Administration		

* Compiled from information supplied by the respective Departments.

**List of the Principal Acts of Parliament Administered by Departments of the
Government of Canada—continued**

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
External Affairs— concluded		Fisheries—	
RSC 1952 219	Privileges and Immunities (International Organizations) (amended 1965, c. 47)	RSC 1927 72	Fish Inspection
		RSC 1952 61	Deep Sea Fisheries
			Department of Fisheries
			Fisheries
275	United Nations		Fisheries Prices Support
1953-54 54	Diplomatic Immunities (Commonwealth Countries)		Fisheries Research Board
			Meat and Canned Foods
1964-65 19	Roosevelt-Campobello International Park Commission		Navigable Waters Protection
			Northern Pacific Halibut Fishery (Convention)
22	Territorial Sea and Fishing Zones		Salt Fish Board
			Whaling Convention
Finance—		1952-53 15	Coastal Fisheries Protection
	Appropriation (Annual)		North Pacific Fisheries Convention
	Canadian National Railways Financing and Guarantee (Annual)	1953-54 18	Northwest Atlantic Fisheries Convention
RSC 1952 13	Bank of Canada		Great Lakes Fisheries Convention
15	Bills of Exchange	1955 34	Pacific Salmon Fisheries Convention
19	Bretton Woods Agreements	1957 11	Pacific Fur Seals Convention
82	Diplomatic Service (Special) Superannuation		Territorial Sea and Fishing Zones
		1964 22	Fisheries Development
110	Farm Improvement Loans	1966-67 18	
116	Financial Administration		
131	Gold Export		
151, 326	Industrial Development Bank		
156	Interest		
182	Municipal Grants	Forestry and Rural Development—	
183	Municipal Improvements Assistance	1947 59	Eastern Rocky Mountain Forest Conservation
204	Pawnbrokers		
221	Provincial Subsidies	1952 175	Maritime Marshland Rehabilitation
245	Satisfied Securities		
261, 336	Tariff Board	1960 41	Forestry Development and Research
278	Veterans Business and Professional Loans	1961 30	Agricultural and Rural Development (ARDA)
		1966-67 41	Fund for Rural Economic Development
296	Winding-up		
315	Currency, Mint and Exchange Fund		
1952-53 47	Public Service Superannuation		
1953-54 28	Fire Losses Replacement Account	Indian Affairs and Northern Development—	
1955 12	Members of Parliament Retiring Allowances	1908 57, 58	National Battlefields at Quebec
		RSC 1927 87	Seed Grain
			Seed Grain Sureties
		1932 55	Waterton-Glacier International Peace Park
1956 1	Prairie Grain Producers Interim Financing	RSC 1952 26	Canada Lands Surveys (Part III)
			Game Export
2	Temporary Wheat Reserves		Indian
29	Federal-Provincial Tax Sharing Arrangements		Land Titles
			Migratory Birds Convention
1957-58 26	Beechwood Power Project		National Parks
1959 32	Public Service Pension Adjustment		National Wildlife Week
1960 1	Prairie Grain Loans		Northern Canada Power Commission
32	International Development Association		Public Lands Grants
1960-61 5	Small Businesses Loans		Territorial Lands
1963 13	Municipal Development and Loan		Yukon Placer Mining
1964-65 24	Canada Student Loans		Yukon Quartz Mining
54	Established Programs Interim Arrangements		Northwest Territories
		1952-53 39	Historic Sites and Monuments
1966-67 70	Canada Deposit Insurance Corporation		Yukon
81	Governor General Retiring Annuity		
87	Bank	Industry—	
89	Federal-Provincial Fiscal Arrangements 1967	1960-61 24	National Design Council
		1963 3	Department of Industry
93	Quebec Savings Banks	1965 12	Area Development Incentives
		1966-67 82	Industrial Research and Development Incentives Act

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—continued

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Insurance—		Manpower and	
RSC 1952 31	Canadian and British Insurance Companies	Immigration—	
49	Civil Service Insurance	concluded	
70	Department of Insurance	1960-61 6	Technical and Vocational Training Assistance
100	Excise Tax (Part I)	26	Vocational Rehabilitation of Disabled Persons
125	Foreign Insurance Companies	1966-67 27	Training Allowance
170	Loan Companies	90	Immigration Appeal Board
251	Small Loans	96	Adult Occupational Training
272	Trust Companies		
296	Winding-up (Part III)	National Defence—	
1952-53 28	Co-operative Credit Associations	RSC 1952 184	National Defence
1966-67 92	Pension Benefits Standards	283	Visiting Forces (British Commonwealth)
		284	Visiting Forces (North Atlantic Treaty)
Justice—		1959 21	Canadian Forces Superannuation
RSC 1940 43	Treachery		
RSC 1952 1	Admiralty	National Health	
28	Canada Prize	and Welfare—	
71	Department of Justice	RSC 1952 17	Blind Persons
98	Exchequer Court	29	Canada Shipping (Part V, Sick Mariners and Marine Hospitals)
106	Expropriation	74	Department of National Health and Welfare
116	Financial Administration	109	Family Allowances
127	Fugitive Offenders	165	Leprosy
144	Identification of Criminals	199	Old Age Assistance
154	Inquiries	200	Old Age Security
158	Interpretation	220	Proprietary or Patent Medicine
159	Judges	229	Public Works Health
160	Juvenile Delinquents	231	Quarantine
171	Lord's Day	1952-53 38	Food and Drugs
198	Official Secrets	1953-54 55	Disabled Persons
210	Petition of Right	1956 26	Unemployment Assistance
234	Railway	1957 28	Hospital Insurance and Diagnostic Services
259, 335	Supreme Court	1958 30	Excise Tax, Sect. 47
299	Yukon Administration of Justice	1960-61 35	Narcotic Control
307	Canada Evidence	59	Fitness and Amateur Sport
322	Extradition	1964-65 23	Youth Allowances
1952-53 30	Crown Liability	51	Canada Pension Plan
1953-54 51	Criminal Code	54	Established Programs (Interim Arrangements)
1960 44	Canadian Bill of Rights	1966-67 42	Health Resources Fund
1960-61 35	Narcotic Control	45	Canada Assistance Plan
		64	Medical Care
Labour—		National Library—	
RSC 1927 110	Conciliation and Labour	RSC 1952 330	National Library
RSC 1952 72	Department of Labour		
108	Fair Wages and Hours of Labour	National Revenue—	
132	Government Annuities	<i>Taxation—</i>	
134, 323	Government Employees Compensation	1940 32	
152	Industrial Relations and Disputes Investigation	1940-41 15	
178	Merchant Seamen Compensation	1942-43 26	
295	White Phosphorous Matches	1943-44 13	
1952-53 19	Canada Fair Employment Practices	1944-45 38	Excess Profits Tax
1955 50	Unemployment Insurance	1945 19	
1956 38	Female Employees Equal Pay	1946 47	
1957-58 24	Annual Vacations	1947 32	
1963 17	Maritime Transportation Unions Trustees	1943-44 21	
1964-65 38	Canada Labour (Standards) Code	1950 27	Canada-U.S. Tax Convention (Income Tax)
1966-67 62	Canada Labour (Safety) Code	1951 5	
		1956 35	
Manpower and		1944-45 31	Canada-U.S. Tax Convention (Succession Duties)
Immigration—		1950 27	
RSC 1952 146	Immigration Aid Societies	1946 38	Canada-U.K. Income Tax Agreement
236	Reinstatement in Civil Employment	39	Canada-U.K. Succession Duty Agreement
325	Immigration		
1955 50	Unemployment Insurance (Sect. 21, Part II)		

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—continued

Department, Year and Chapter of Statute		Name of Act	Department, Year and Chapter of Statute		Name of Act
National Revenue— continued			National Revenue— concluded		
<i>Taxation— concluded</i>			<i>Administered in Part—</i>		
1948	34	Canada-N.Z. Income Tax Agree- ment	RSC 1925	54	United States Treaty (smuggling)
1950-51	40	Canada-France Income Tax Con- vention	RSC 1952	2	Aeronautics (amended by 302)
1952	18	Canada-France Succession Duty Convention		9	Animal Contagious Diseases
1950-51	41	Canada-Sweden Income Tax Agreement (amended 1966, c. 14)		11	Atomic Energy Control
	42			22	Canada Dairy Products (amended by 305)
RSC 1952	89	Dominion Succession Duty		29	Canada Shipping
	317			30	Canada Temperance
1956-57	22			44	Canadian Wheat Board
1958	29			55	Copyright
1960	29	Estate Tax		81	Destructive Insect and Pest
1962-63	5			102	Explosives
1964	8			103	Export
RSC 1952	148			113	Feeding Stuffs
1952-53	40			114	Ferries
1953-54	57			115	Fertilizers
1955	54			118	Fish Inspection
	55			119	Fisheries
1956	39			126	Fruit, Vegetables and Honey
1957	29			128	Game Export
1957-58	17	Income Tax		131	Gold Export
1958	32			135	Government Harbours and Piers
1959	45			145	Immigration (amended by 325)
1960	43			147	Importation of Intoxicating Liquors
1960-61	17			155	Inspection and Sale
	49			167	Live Stock and Live Stock Prod- ucts
1962	8			168	Live Stock Pedigree
1963	21			169	Live Stock Shipping
1964	13			172	Maple Products Industry
1955	10	Canada - Ireland Income Tax Agreement		177	Meat and Canned Foods
	11	Canada-Ireland Succession Duties Agreement		187	National Harbours Board
1956	5	Canada-Denmark Income Tax Agreement (amended 1964, c. 37)		193	Navigable Waters Protection
	33	Canada-Germany Income Tax Agreement		194	Northern Pacific Halibut Fishery (Convention)
1956-57	17	Canada-South Africa Death Duties Agreement		209	Pest Control Products
	18	Canada-South Africa Income Tax Agreement		212	Post Office
1957	16	Canada-Netherlands Income Tax Agreement (amended 1960, c. 18; 1964, c. 37)		215	Precious Metals Marking
1957-58	27	Canada-Australia Income Tax Agreement		220	Proprietary or Patent Medicine
1959	20	Canada-Finland Income Tax Convention (amended 1964, c. 37)		231	Quarantine
1960-61	19	Canada-United States of America Estate Tax Convention		233	Radio
1965	37	Canada-Japan Income Tax Con- vention		248	Seeds
1966-67	14	Canada-United Kingdom Income Tax Agreement (interim agree- ment)		271	Transport
	43	Public Utilities Income Tax Trans- fer		292	Weights and Measures
	75	Canada-Trinidad and Tobago In- come Tax Agreement		295	White Phosphorous Matches
<i>Customs and Excise—</i>				1952-53	15 Coastal Fisheries Protection
RSC 1952	58	Customs		38	Food and Drugs
	60	Customs Tariff (amended by 316)		1953-54	27 Export and Import Permits
	75	Department of National Revenue		51	Criminal Code
	99	Excise (amended by 319)		1955	27 Canada Agricultural Products Standards
	100	Excise Tax (amended by 320)		36	Meat Inspection
				1957	31 Pacific Fur Seals Convention
				1960-61	35 Narcotic Control
				1965	51 Canada Pension Plan
			Post Office—		
			RSC 1952	212	Post Office
			Public Archives—		
			RSC 1952	163	Laurier House
				222	Public Archives

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—continued

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Public Works—		Trade and Commerce—	
RSC 1952	91 Dry Docks Subsidies	RSC 1952	105 Export Credits Insurance
114	Ferries	129	Gas Inspection
135	Government Harbours and Piers (Sect. 5)	191	National Trade Mark and True Labelling
138	Government Works Tolls	215	Precious Metals Marking
161	Kingsmere Park (in part)	257	Statistics
163	Laurier House	292	Weights and Measures
187	National Harbours Board (Sect. 38, in part)	1953-54	27 Export and Import Permits
216	Prime Minister's Residence	1962	26 Corporations and Labour Unions Returns
228	Public Works	1962-63	12 Canadian Corporation for the 1967 World Exhibition
234	Railway (Sect. 251)		
269	Trans-Canada Highway		
324	Government Property Traffic (in part)		
1959	46 National Energy Board (Sect. 76)		
		Transport—	
Registrar General of Canada—			Auditors for National Railways (Annual)
1947	24 Trading with the Enemy (Transitional Powers)		Canadian National Railways Fi- nancing and Guarantee (Annual)
RSC 1952	14 Bankruptcy	1907	22 Intercolonial Railway and Prince Edward Island Railway Em- ployees Provident Fund
18	Boards of Trade	1911	26 Toronto Harbour Commissioners
53	Canada Corporations	1912	55 Winnipeg and St. Boniface Harbour Commissioners
54	Companies Creditors Arrangement Copyright		98 Hamilton Harbour Commissioners
111	Farmers' Creditors Arrangement	1913	162 North Fraser Harbour Commis- sioners
150	Industrial Design and Union Label Patent	1922	50 Trenton Harbour
203	Pension Fund Societies	1927	29 Canadian National (West Indies) Steamship Company
208	Timber Marking	1929	12 Canadian National Montreal Ter- minals
265	Trade Unions		48 Northern Alberta Railways
267	Winding-up (Part I)	1947	42 Port Alberni Harbour Commis- sioners
296	Combines Investigation	RSC 1952	34 Belleville Harbour Commissioners
1952-53	49 Trade Marks	1952 2,	302 Aeronautics
1962	26 Corporations and Labour Unions Returns (Part III, Sect. 13)	16	Bills of Lading
		20	Bridges
Secretary of State—		29	Canada Shipping
RSC 1952	30 Canada Temperance	38	Canadian Maritime Commission
33	Canadian Citizenship (amended 1952-53, c. 23; 1953-54, c. 34; 1956, c. 6; and 1958, c. 24)	39	Canadian National—Canadian Pacific
77	Department of State (amended 1966, c. 25)	42	Canadian Overseas Telecommuni- cation Corporation
1966-67	270 Translation Bureau	43	Canadian Vessel Construction As- sistance
71	Government Organization	45	Carriage by Air
72	Public Service Employment	79	Department of Transport
	72 Public Service Staff Relations	135	Government Harbours and Piers
Solicitor General of Canada—		136	Government Railways
RSC 1952	217 Prisons and Reformatories	137	Government Vessels Discipline
241	Royal Canadian Mounted Police Pension Continuation	157	International Rapids Power De- velopment
1958	38 Parole	169	Live Stock Shipping
1959	34 Royal Canadian Mounted Police Superannuation	174	Maritime Freight Rates
54	Royal Canadian Mounted Police	187	National Harbours Board
1960-61	53 Penitentiary	193	Navigable Waters Protection
		202	Passenger Tickets
Trade and Commerce—		233	Radio
RSC 1952	78 Department of Trade and Com- merce	234	Railway
94	Electricity Inspection	242	St. Lawrence Seaway Authority
103	Export	262	Telegraphs
		268	Trans-Canada Air Lines (Air Canada by 1964, c. 2)
		271	Transport (Board of Transport Commissioners)
		276	United States Wreckers

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—concluded

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Transport— concluded		Veterans Affairs— concluded	
RSC 1952 291	Water Carriage of Goods	RSC 1952 117	Fire Fighters War Service Benefits
311	Canadian National Railways Capital Revision	207, 332	Pension (amended 1953-54, c. 62; 1957-58, c. 19; 1960-61, c. 10; 1964-65, c. 34; 1966, c. 55; 1967, c. 96) (Canadian Pension Commission)
1955 15	Foreign Aircraft Third Party Damage	256	Special Operators War Service Benefits
29	Canadian National Railways	258	Supervisors War Service Benefits
31	Canadian National Refunding	279, 338	Veterans Insurance (amended 1958, c. 43; 1962, c. 6; 1967, c. 96)
1957 38	Windsor Harbour Commissioners	280	Veterans' Land (amended 1953-54, c. 66; 1959, c. 37; 1962, c. 29; 1965, c. 19)
1958 34	Lakehead Harbour Commissioners	281	Veterans Rehabilitation (amended 1959, c. 17)
1959 27	Freight Rates Reduction Act	289	War Service Grants (amended 1953-54, c. 46; 1959, c. 18; 1962, c. 7)
1960 19	Nanaimo Harbour Commissioners	297	Women's Royal Naval Services and the South African Military Nursing Service (Benefits)
21	Oshawa Harbour Commissioners	340	War Veterans Allowance (amended 1955, c. 13; 1957-58, c. 7; 1960, c. 36; 1960-61, c. 39; 1964-65, c. 34; 1965, c. 20; 1966, c. 55) (War Veterans Allowance Board)
26	Canadian National Toronto Terminals	1952-53 27	Children of War Dead (Education Assistance) (amended 1953-54, c. 2; 1958, c. 25; 1962, c. 10; 1965, c. 15)
1962 10	Atlantic Development Board	1953-54 65	Veterans Benefit (amended 1955, c. 43)
1963 39	Ontario Harbours Agreement		
1964 6	Blue Water Bridge Authority		
32	Harbour Commissions		
1966-67 69	National Transportation		
Veterans Affairs—			
1920 54	Returned Soldiers' Insurance (as amended)		
RSC 1927 188	Soldier Settlement (as amended)		
RSC 1952 8	Allied Veterans Benefits		
51, 312	Civilian War Pensions and Allowances (amended 1962, c. 11; 1967, c. 96) (Sects. I to X, Canadian Pension Commission); (Sect. XI, War Veterans Allowance Board)		
80	Department of Veterans Affairs (1967, c. 96)		

PART IV.—FEDERAL AND PROVINCIAL GOVERNMENT EMPLOYMENT

Federal Government Employment

The former Civil Service Commission became the Public Service Commission with the proclamation of the Public Service Employment Act on Mar. 13, 1967. Under this Act the Commission retains its status as an independent body responsible to Parliament for the appointment of qualified persons to or from within the public service and for the operation of staff training and development programs. It may establish boards to consider appeals against selections for appointments made from within the public service, to make recommendations on the delegation of its authority, and to inquire into allegations of political partisanship. The Commission's jurisdiction is extended to include a number of persons not covered by the former Civil Service Act. It is also given the prerogative of making extensive delegation of its authority to deputy heads to perform any of its powers, functions or duties, except those relating to appeals.

Under the amended Financial Administration Act and the Public Service Staff Relations Act, both of which were also proclaimed on Mar. 13, 1967, the Treasury Board is made responsible for the development of regulations, policies and standards governing

all other aspects of personnel management in the public service including classification and pay, conditions of employment, collective bargaining and staff relations, organization and establishments, and manpower development and utilization.

Staffing.—The Commission continues to perform its important role as guardian of the merit principle while ensuring the high quality of people within the service. Every citizen has the opportunity of competing for positions in the service of his country. Ordinarily, any Canadian citizen may apply for headquarters positions at Ottawa but applicants for local positions in the administrative support or operational categories who are residents of the locality in which the vacancy occurs are given preference. Competitive examinations are announced through the press and other news media and through posters displayed on public notice boards of the larger post offices, offices of the Canada Manpower Centres, offices of the Public Service Commission and elsewhere.

The Commission's major task—staffing the public service according to merit—is done on an occupational basis. This is consistent with the revised classification system that divides the service into six broad occupational categories which are further divided into groups of occupationally similar jobs. For each major occupation or group of occupations, there is a program of development, recruitment, selection and placement. The activities are operated on the basis of comprehensive manpower planning including regular appraisals of employees, planned rotation, development and continuous recruitment techniques.

The new legislation provides the flexibility needed for the revised approach to government administration whereby competent managers should be allowed to manage and should be held accountable for their decisions. To facilitate staffing under this concept of management, the Commission may delegate any of its authority, except for appeals, to deputy heads wherever practical, and they in turn may delegate this authority with the approval of the Commission. Plans are under way to establish the proper conditions for delegation and to implement the actual delegation of authority. The Commission must report to Parliament on delegation and changes in this delegation.

Staffing operations for the administrative support and operational categories are decentralized to the regional and local levels. But operations remain centralized primarily for employees in executive positions, for most administrative occupations in a number of departments and for specialized or professional employees, so that they may be employed effectively across the service throughout their careers.

Appointments are made from within the service except where the Commission believes it is in the best interests of the service to do otherwise. Selection is made by competition or other processes of personnel selection designed to establish the relative merit of the candidates.

Competitions may be open to the public and to everyone in the public service or they may be limited to all or to a part of the service; the latter are referred to as closed competitions. Examinations for selection may be written, oral, a demonstration of skill or any combination of these. By these techniques, qualified candidates are placed on eligible lists which are valid for periods determined by the Commission. Appointments may be made from an eligible list for positions of a similar occupational nature and level. Closed competitions for promotion are generally conducted by the departmental staffing officers under work-sharing arrangements with the Commission. The Commission remains in touch with the departments to advise and instruct them in the administration of the Public Service Employment Act and its regulations.

Other processes used for appointments include continuous staffing and appraisals. The former is used when there is a recurring demand within an occupational group or there

is some specialization within a group. Applications are reviewed and candidates are called for interview. The records of those who are not immediately called or appointed are put into a manpower inventory. This inventory is reviewed when a vacancy occurs and a group of those in the inventory who are best qualified for that position are considered for the appointment. Within the service, employees are regularly appraised to determine what training and development may be needed, to plan careers, and to decide promotions or transfers on the basis of performance and qualifications.

Appeals.—Under the Act, public servants who are candidates in a competition open to all or part of the service may appeal the results of that competition to the Commission, except where no candidate is successful. When a promotion is made without competition, those who would have been eligible to apply if a competition had been held may appeal. Public servants may also appeal a recommendation from a deputy head for their demotion or release because of incompetence or incapacity.

Management Consulting.—In recent years there has been an increasing awareness of the extent to which efficient and effective administration depends on the adoption of modern management techniques and devices. To ensure this, the Public Service Commission offers management consulting services to departments and agencies covering data processing, operations and methods, operations research, organization analysis and personnel consulting.

Training and Development.—Consistent with the growing emphasis on managerial development and continuing education, the Commission offers interdepartmental courses in government administration, occupational training and management improvement. The Commission acts as the consultant and adviser to deputy heads on training matters and the training and development facilities of the Commission are available to employees to train them for specific occupations or for promotion within the administrative and managerial ranks.

Language.—The Commission has responsibilities concerning the requirements for bilingualism and biculturalism in the public service. It operates language training schools and carries out research and development to achieve various levels of proficiency needed by public servants. It is developing bilingual skills of senior executives so they may perform their duties effectively in either English or French. The program for this development gives these executives a sufficient appreciation of English and French cultures so they may use this understanding when developing and carrying out policy. The Commission also provides departments and agencies with advice and monitors the way in which language-usage policy is put to use.

Statistics of Federal Government Employment.*—The current monthly survey of Federal Government employment, started in 1952, covers all employees of the Government of Canada; employees in this sense exclude the Governor General and Lieutenant-Governors, Ministers of the Crown and Members of Parliament, judges, persons under contract and members of the Armed Forces, but include Force members of the Royal Canadian Mounted Police. The survey is divided into two main categories: (1) departments and departmental corporations, and (2) agency and proprietary corporations and other agencies. Table 1 combines the two groups; Tables 2 to 5 cover employees in the first category and Table 6 covers employees in the second category.

* Prepared in the Governments Division, Financial Statistics Branch, Dominion Bureau of Statistics.

**1.—Total Federal Government Employees, by Province, as at Mar. 31, 1966, and
Payrolls for the Year Ended Mar. 31, 1966**

Item and Province or Territory	Departments	Departmental Corporations	Agency Corporations	Proprietary Corporations	Other Agencies	Total
	No.	No.	No.	No.	No.	No.
Employees—						
Newfoundland.....	3,909	151	7	6,448	10	10,525
Prince Edward Island.....	1,231	32	4	960	—	2,227
Nova Scotia.....	13,473	269	327	5,162	47	19,278
New Brunswick.....	6,699	420	108	7,427	42	14,696
Quebec.....	32,083	1,828	2,557	30,991	1,214	68,673
Ontario.....	88,540	5,888	5,018	34,131	1,095	134,672
Manitoba.....	10,189	407	133	13,488	576	24,793
Saskatchewan.....	7,102	286	2	4,061	59	11,510
Alberta.....	12,422	281	50	6,663	102	19,518
British Columbia.....	20,453	642	218	6,207	122	27,642
Yukon and Northwest Territories ¹	2,800	3	203	28	—	3,034
Abroad.....	3,526	12	5	8,762	10	12,315
Totals, Employees.....	202,427	10,219	8,632	124,328	3,277	348,883
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Totals, Payrolls.....	1,014,213	55,087	51,548	727,328	18,306	1,866,483

¹ In addition, approximately 250 agency and proprietary corporation and other agency employees are included with those of other provinces.

*Departments and Departmental Corporations.**—The salaries of employees in this group are paid from the Consolidated Revenue Fund. Definitions of classifications are as follows. "Salaried" employees include all persons paid on the basis of an annual salary rate with the exception of ships' officers who, although paid an annual salary rate, are subject to special treatment under the regulations made pertaining to the Financial Administration Act. The salaried staff are employed in departments and departmental corporations which are subject to regulation by the Treasury Board and for which the positions are outlined in the *Estimates of Canada*, or are established by means of supplementary Treasury Board Minutes. Thus, this category of employees includes persons subject to the provisions of the Civil Service Act* plus salaried persons employed on the staffs of Cabinet Ministers and appointed by statute or by Order in Council, and also the salaried staffs of certain administrative branches of the Government that do not fall under the jurisdiction of the Civil Service Act.

"Prevailing Rate" employees are those who occupy continuing positions that are subject to prevailing rate regulations and are therefore paid on the basis of standard wage rates for similar work in the area in which the individual is employed. Regulations made under authority of the Financial Administration Act govern the third group entitled "Ships' Officers and Crews".

These three groups comprise what may be called the "regular" employees of the government service. "Casuals and Others" are principally persons employed on a non-continuing basis.

* The tables under this heading give figures as at Mar. 31, 1966 or for the year ended Mar. 31, 1966 and the classifications, particularly those in Tables 2 and 3 are in accordance with the legislation and policies in effect at that time. Under the Public Service Employment Act, which replaced the Civil Service Act in February 1967, prevailing rate employees and ships' officers and crews are now subject to the provisions of the Act (see p. 154).

2.—Employees in Departments and Departmental Corporations of the Federal Government, by Province and Sex, as at Mar. 31, 1966

Province or Territory	Salaried	Prevailing Rate ¹	Ships' Officers and Crews	Total ¹	Casuals and Others ¹
	No.	No.	No.	No.	No.
Newfoundland and Labrador.....T.	2,882	404	325	3,611	449
M.	2,549	327	325	3,201	267
F.	333	64	—	397	40
Prince Edward Island.....T.	781	202	102	1,085	178
M.	655	123	102	885	170
F.	126	20	—	146	8
Nova Scotia.....T.	8,277	2,526	1,205	12,008	1,734
M.	6,383	1,964	1,205	9,552	1,397
F.	1,894	266	—	2,160	86
New Brunswick.....T.	5,513	855	148	6,516	603
M.	4,386	659	148	5,193	401
F.	1,127	175	—	1,302	136
Quebec.....T.	27,304	3,683	665	31,652	2,259
M.	21,403	2,877	665	24,945	1,585
F.	5,901	726	—	6,627	647
Ontario.....T.	81,098	6,198	199	87,495	6,933
M.	55,961	4,089	197	60,247	2,944
F.	25,137	2,048	2	27,187	3,960
Manitoba.....T.	8,410	1,365	15	9,790	806
M.	6,282	899	15	7,196	441
F.	2,128	369	—	2,497	360
Saskatchewan.....T.	6,006	673	—	6,679	709
M.	4,901	382	—	5,283	610
F.	1,105	114	—	1,219	99
Alberta.....T.	10,167	1,664	9	11,840	863
M.	7,598	893	9	8,600	506
F.	2,569	335	—	2,904	226
British Columbia.....T.	15,851	2,399	886	19,136	1,959
M.	11,841	1,684	886	14,411	1,605
F.	4,010	551	—	4,561	276
Yukon and Northwest Territories.....T.	1,632	644	23	2,299	504
M.	1,159	342	23	1,524	157
F.	473	51	—	524	14
Abroad.....T.	3,296	—	—	3,296	242
M.	1,870	—	—	1,870	123
F.	1,426	—	—	1,426	119
Canada.....T.	171,217	20,613	3,577	195,407	17,239
M.	124,988	14,344	3,575	142,907	10,206
F.	46,229	4,719	2	50,950	5,971

¹ In certain provinces totals include employees undistributed as to sex.

3.—Employees in Departments and Departmental Corporations and Payrolls, by Month, April 1965 to March 1966

NOTE.—Excludes agency and proprietary corporations and other agencies, figures for which are given in Table 6.

Month	Salaried	Prevailing Rate	Ships' Officers and Crews	Total	Casuals and Others
EMPLOYEES AT END OF EACH MONTH					
	No.	No.	No.	No.	No.
April 1965.....	164,681	20,721	3,646	189,048	14,137
May.....	165,203	20,893	3,796	189,892	16,568
June.....	165,936	21,401	3,880	191,217	17,513
July.....	166,419	21,837	3,873	192,129	19,813
August.....	167,066	21,641	3,868	192,575	20,131
September.....	166,916	21,621	3,818	192,355	18,722
October.....	167,328	21,264	3,798	192,390	16,049
November.....	168,220	20,722	3,764	192,706	15,857
December.....	168,630	20,581	3,621	192,832	15,228
January 1966.....	169,349	20,521	3,530	193,400	15,274
February.....	169,935	20,509	3,513	193,957	16,244
March.....	171,217	20,613	3,577	195,407	17,239
REGULAR PAYROLLS					
	\$'000	\$'000	\$'000	\$'000	\$'000
April 1965.....	67,763	6,935	1,471	76,169	3,747
May.....	67,996	6,594	1,289	75,879	4,430
June.....	68,334	6,739	1,371	76,444	4,835
July.....	69,076	7,153	1,334	77,563	5,727
August.....	68,992	7,219	1,348	77,559	5,935
September.....	71,689	7,300	1,331	80,321	5,614
October.....	72,071	7,026	1,321	80,418	4,686
November.....	72,360	6,693	1,318	80,371	4,512
December.....	72,700	7,202	1,371	81,273	4,653
January 1966.....	75,191	7,130	1,247	83,569	4,591
February.....	75,307	6,704	1,246	83,257	4,266
March.....	76,299	6,713	1,281	84,293	4,656
OVERTIME PAYMENTS REPORTED					
	\$'000	\$'000	\$'000	\$'000	\$'000
April 1965.....	1,220	361	144	1,726	28
May.....	1,168	369	210	1,748	46
June.....	884	354	171	1,408	83
July.....	608	391	171	1,170	139
August.....	624	370	186	1,180	150
September.....	1,445	257	239	1,940	131
October.....	1,517	257	321	2,094	104
November.....	2,350	306	215	2,872	74
December.....	1,905	140	217	2,262	41
January 1966.....	2,749	334	146	3,228	47
February.....	1,802	242	134	2,178	26
March.....	1,275	351	94	1,720	37
RETROACTIVE PAYMENTS REPORTED					
	\$'000	\$'000	\$'000	\$'000	\$'000
April 1965.....	1,260 ¹	22	47	1,328	5
May.....	—	30	5	35	4
June.....	—	45	5	50	46
July.....	—	48	—	48	14
August.....	200	47	3	250	29
September.....	19,444 ²	27	1	19,471	11
October.....	4	23	5	32	19
November.....	25	18	61	104	6
December.....	1	27	129	156	13
January 1966.....	7,882 ³	30	31	7,943	57
February.....	326	20	36	382	7
March.....	46	48	201	295	34

¹ Includes a twelve-month retroactive pay increase to approximately 2,700 employees of the Penitentiary Service. ² Includes retroactive payments covering several different periods ending at Aug. 31, 1965. Approximately 62,000 employees benefited from these payments. ³ Includes retroactive salary increases to some 19,000 professional and technical employees for the period July 1, to Dec. 31, 1965.

Table 4 presents metropolitan area data on staff employed in departments and departmental corporations. The 19 metropolitan areas listed include the 17 metropolitan areas defined for purposes of the 1966 Census of population, plus the cities of Regina and Saskatoon. Included are employees who work within the boundaries of the metropolitan areas; employees residing within those areas but working outside are excluded.

4.—Federal Employees in Metropolitan Areas with Totals for Non-metropolitan Areas, by Sex, as at Sept. 30, 1966, and Payrolls for September 1966

Area	Persons Employed as at Sept. 30, 1966				Regular Payrolls September 1966	
	Male	Female	Total	P.C. of Grand Total	Total	P.C. of Grand Total
	No.	No.	No.		\$'000	
Metropolitan Areas.....	102,746	44,123	146,869	65.0	66,301	67.7
Ottawa, Ont.-Hull, Que.....	33,339	19,620	52,968	23.5	26,725	27.2
Montreal, Que.....	15,537	4,609	20,146	8.9	8,305	8.5
Toronto, Ont.....	12,416	4,961	17,377	7.7	7,230	7.4
Vancouver, B.C.....	6,793	2,576	9,369	4.1	4,210	4.3
Halifax, N.S.....	6,686	1,722	8,408	3.7	3,391	3.5
Winnipeg, Man.....	4,723	2,173	6,896	3.1	2,921	3.0
Edmonton Alta.....	3,513	1,644	5,157	2.3	2,213	2.3
Victoria, B.C.....	3,809	1,170	4,979	2.2	2,180	2.2
Quebec, Que.....	3,341	900	4,241	1.9	1,747	1.8
London, Ont.....	2,538	1,317	3,855	1.7	1,520	1.6
Calgary, Alta.....	2,118	856	2,974	1.3	1,275	1.3
St. John's, Nfld.....	1,620	294	1,914	0.8	902	0.8
Saint John, N.B.....	1,192	570	1,762	0.8	715	0.7
Regina, Sask.....	1,179	443	1,622	0.7	752	0.8
Hamilton, Ont.....	1,174	447	1,621	0.7	694	0.7
Windsor, Ont.....	956	255	1,251	0.6	538	0.5
Saskatoon, Sask.....	951	259	1,210	0.5	581	0.6
Kitchener-Waterloo, Ont.....	555	157	712	0.3	322	0.3
Sudbury, Ont.....	266	141	407	0.2	182	0.2
Non-metropolitan Areas.....	62,175	14,468	79,023	35.0	31,691	32.3
In Canada.....	60,049	12,829	75,258	33.3	30,071	30.7
Outside Canada.....	2,126	1,639	3,765	1.7	1,620	1.6
Grand Totals.....	164,921	58,591	225,892	100.0	97,992	100.0
Proportion in—	p.c.	p.c.	p.c.		p.c.	
Metropolitan areas.....	62.3	75.3	65.0	...	67.7	...
Non-metropolitan areas.....	37.7	24.7	35.0	...	32.3	...
In Canada.....	36.4	21.9	33.3	...	30.7	...
Outside Canada.....	1.3	2.8	1.7	...	1.6	...

¹ Includes 2,380 persons undistributed.

Table 5 presents statistics for departments and departmental corporations on the basis of a classification by function. The purpose of such classification is to supply a means of studying the operation of government without the complication that results from differences in administrative establishment. This analysis is useful in three ways. First, it permits a detailed study of employment by the Government of Canada according to the main purposes or functions and, since these functions are not subject to the periodic changes that alter the administrative structure of the Government, it is possible to develop a statistical series which, with minor exceptions, is consistent over an extended period of time. Secondly, since differences in administrative establishment are eliminated, it is possible to make meaningful comparisons between Federal Government expenditures on employment and similar expenditures by other levels of government. Thirdly, an analysis of the relationship between expenditures on employment and total expenditures may be made with regard to each function.

This Section previously included a table giving employee and payroll data classified by departmental branches, services and corporations as they were organized at the end of the latest fiscal year. However, because of the extensive changes taking place in the organization of a number of departments during 1965-66, this classification does not appear in the current edition; monthly figures on both the functional and departmental bases are available in DBS publication *Federal Government Employment* (Cat. No. 72-004).

5.—Departments and Departmental Corporations classified by Function, Persons Employed as at Mar. 31, 1966, and Regular Payrolls for the Year Ended Mar. 31, 1966

NOTE.—Excludes agency and proprietary corporations and other agencies, figures for which are given in summary form in Table 6.

Function	Salaried		Prevailing Rate		Ships' Officers and Crews		Totals		Casuals and Others	
	Em- ployees	Regular Payrolls	Em- ployees	Regular Payrolls	Em- ployees	Regular Payrolls	Em- ployees	Regular Payrolls	Em- ployees	Regular Payrolls
	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$
Defence Services (excl. Armed Forces).....	29,380	138,240,959	11,150	45,349,969	566	2,471,201	41,096	186,062,129	5,595	24,357,524
Veterans Pensions and Other Benefits.....	10,755	49,230,137	1,991	5,759,951	—	—	12,746	54,990,088	607	1,095,644
General Government.....	30,479	153,617,726	2,628	10,379,761	9	38,117	33,116	164,235,604	2,991	4,496,152
Executive and administrative.....	26,611	136,069,506	2,623	10,374,164	9	38,117	29,231	146,481,787	2,859	4,183,469
Legislative.....	1,316	5,398,732	5	5,597	—	—	1,321	5,484,320	19	38,862
Research, planning and statistics.....	2,552	12,349,488	—	—	—	—	2,552	12,349,488	113	273,821
Protection of Persons and Property.....	14,470	74,462,161	114	424,725	—	—	14,584	74,886,886	30	96,503
Law enforcement.....	261	1,695,013	—	—	—	—	261	1,695,013	—	—
Corrections.....	3,707	16,562,054	—	—	—	—	3,707	16,562,054	4	32,073
Police protection.....	9,213	48,321,165	114	424,725	—	—	9,327	48,745,890	—	—
Other.....	1,289	7,893,929	—	—	—	—	1,289	7,893,929	26	64,430
Transportation and Communications.....	10,529	59,383,372	1,495	8,016,918	2,564	11,300,023	14,588	78,700,313	1,163	6,773,206
Airways.....	3,948	23,609,784	1,784	3,822,423	—	—	4,732	27,432,187	370	2,203,784
Highways, roads and bridges.....	245	1,813,393	303	1,914,224	—	—	548	3,727,617	85	1,242,024
Railways.....	175	1,330,705	—	—	—	—	175	1,330,705	—	—
Telephone, telegraph and wireless.....	2,759	15,244,113	24	122,943	—	—	2,783	15,367,056	74	360,620
Waterways.....	2,814	14,359,544	384	2,157,328	—	—	5,762	27,816,895	634	2,966,778
Other.....	588	3,025,953	—	—	2,564	11,300,023	588	3,025,833	—	—
Health.....	3,845	19,304,662	406	1,126,763	—	—	4,251	20,431,430	330	1,074,829
General.....	456	2,425,184	5	16,532	—	—	461	2,441,716	16	64,226
Public health.....	1,181	6,194,499	47	188,966	—	—	1,228	6,383,455	23	114,088
Hospital care.....	2,205	10,684,979	354	921,280	—	—	2,559	11,606,259	291	896,515
Social Welfare.....	12,002	56,302,398	11	43,505	4	21,317	12,017	56,367,120	2,659	3,793,948
Aid to unemployed employables.....	5,262	24,437,405	—	—	—	—	5,262	24,441,226	621	1,907,285
Labour.....	613	3,081,534	—	—	—	—	613	3,081,534	88	172,133
National employment services.....	3,981	18,837,526	—	—	—	—	3,981	18,837,526	318	818,082
Other social welfare.....	2,146	9,945,833	11	39,684	4	21,317	2,161	10,006,834	1,032	866,448

5.—Departments and Departmental Corporations classified by Function, Persons Employed as at Mar. 31, 1966, and Regular Payrolls for the Year Ended Mar. 31, 1966—concluded

Function	Salaried			Prevailing Rate		Ships' Officers and Crews		Totals		Casuals and Others	
	Em- ployees	Regular Payrolls	No.	Em- ployees	Regular Payrolls	Em- ployees	Regular Payrolls	Em- ployees	Regular Payrolls	Em- ployees	Regular Payrolls
Recreation and Cultural Services	2,045	11,629,609	1,264	5,155,427	—	—	—	3,309	16,785,036	863	2,996,189
Archives, art galleries, museums and libraries...	510	2,514,315	16	72,292	—	—	—	526	2,686,607	30	14,437
Parks, beaches and other recreation areas.....	732	3,937,674	1,248	5,083,135	—	—	—	1,980	9,020,809	689	2,293,244
Other.....	803	5,177,620	—	—	—	—	—	803	5,177,620	144	616,508
Education	2,146	8,810,969	20	51,065	—	—	—	2,166	8,862,034	374	356,769
Indian and Eskimo schools and schools in N.W.T.	2,039	8,449,831	20	51,065	—	—	—	2,119	8,500,896	374	356,769
Universities, colleges and other schools.....	47	361,138	—	—	—	—	—	47	361,138	—	—
Natural Resources and Primary Industries	14,291	84,669,586	1,433	6,482,664	434	2,043,352	2,043,352	16,158	92,195,602	872	4,694,555
Fish and game.....	1,909	11,085,952	34	281,018	434	2,043,352	2,377	2,377	13,410,322	70	1,137,193
Forests.....	1,051	6,632,747	62	335,154	—	—	—	1,113	6,967,901	48	1,198,193
Lands—settlement and agriculture.....	8,203	47,028,434	968	3,836,099	—	—	—	9,171	50,864,533	308	1,575,567
Minerals and mines.....	1,271	9,137,414	64	340,574	—	—	—	1,335	9,477,988	58	557,515
Water resources.....	296	1,707,252	4	17,538	—	—	—	300	1,724,791	9	31,851
Other.....	1,561	9,077,787	301	1,672,280	—	—	—	1,862	10,750,067	352	1,169,387
Trade and Industrial Development	1,920	11,876,970	—	—	—	—	—	1,920	11,876,970	193	777,088
Public Service and Trading Enterprises	136	597,392	—	—	—	—	—	136	597,392	58	229,220
Other	39,219	189,457,881	98	427,098	—	—	—	39,317	189,884,979	2,103	6,900,147
Civil defence.....	223	1,303,031	31	93,302	—	—	—	254	1,402,333	—	—
International co-operation and assistance.....	186	1,068,175	—	—	—	—	—	186	1,068,175	11	37,183
Immigration and citizenship.....	2,101	10,621,052	21	69,133	—	—	—	2,122	10,690,185	80	108,687
External affairs.....	2,426	12,309,460	—	—	—	—	—	2,426	12,309,460	221	326,211
Bullion and coinage.....	357	1,684,500	—	—	—	—	—	357	1,684,500	—	—
Post Office.....	28,584	128,766,907 ¹	24	161,169	—	—	—	28,608	128,928,076	1,177	2,483,156 ²
Other.....	5,342	33,698,356	22	103,494	—	—	—	5,364	33,801,850	614	3,942,910 ³
Grand Totals	171,217	857,777,722 ⁴	20,613 ⁵	83,242,655 ⁶	3,577	15,874,010 ⁶	15,874,010 ⁶	195,407 ⁶	956,894,387 ⁶	17,239 ⁶	57,653,274 ⁶

¹ Excludes 13,984 employees paid \$34,330,000 from postal revenues

² Excludes "helpers" for Christmas 1965, paid \$4,419,000.

³ Excludes the Governor General and 10 Lieutenant-Governors paid \$231,000; 376 judges paid \$7,244,000; and 26 Ministers of the Crown paid \$364,000.

⁴ Excludes field parties of the Department of Mines and Technical Surveys—prevailing rate employees, paid \$585,000; and ships' officers and crews paid \$513,000.

⁵ To avoid revealing particulars relating to individuals, payments of \$14,804 to prevailing rate employees and of \$11,500 to casual employees are excluded from the function detail but are included here.

⁶ Excludes part-time weather observers paid \$52,000.

Agency and Proprietary Corporations and Other Agencies.—The following organizations owned by the Federal Government as at Mar. 31, 1966 are included under this heading. Employees and earnings are shown by month in Table 6; a provincial distribution of employees and a summary of the total payroll in each of the three groups is given in Table 1, p. 157.

Agency Corporations

Atomic Energy of Canada Limited
Canadian Arsenals Limited
Centennial Commission
Crown Assets Disposal Corporation
Defence Construction (1951) Limited

National Battlefields Commission
National Capital Commission
National Harbours Board
Northern Canada Power Commission

Proprietary Corporations

Air Canada
Canadian Broadcasting Corporation
Canadian National Railways
Canadian Overseas Telecommunication Corporation
Central Mortgage and Housing Corporation
Eldorado Aviation Limited
Eldorado Mining and Refining Limited

Export Credits Insurance Corporation
Farm Credit Corporation
Northern Transportation Company Limited
Polymer Corporation Limited
St. Lawrence Seaway Authority
The Seaway International Bridge Corporation Limited

Other Agencies

Atlantic Development Board
Bank of Canada
Canadian Wheat Board

Industrial Development Bank
Canadian Corporation for the 1967 World Exhibition
Office of the Custodian of Enemy Property

6.—Employees and Payrolls in Agency and Proprietary Corporations and Other Agencies, by Month, Years Ended Mar. 31, 1965 and 1966

Month	1964-65		1965-66	
	Employees	Payrolls	Employees	Payrolls
	No.	\$'000	No.	\$'000
April.....	132,670	58,185	134,100	62,726
May.....	135,686	59,808	138,692	66,752
June.....	140,226	63,427	140,954	65,560
July.....	143,717	64,629	143,961	68,594
August.....	144,232	63,675	144,619	68,199
September.....	143,455	68,589	143,073	67,190
October.....	138,281	62,906	139,105	66,612
November.....	136,336	62,602	137,536	67,849
December.....	135,800	63,839	136,655	66,771
January.....	133,842	61,740	136,000	66,045
February.....	133,841	59,248	135,850	63,486
March.....	133,697	62,946	136,216	67,399

Provincial Government Employment

Table 7 shows gross payrolls (including retroactive pay, salary adjustments and overtime payments) of provincial government employees, exclusive of those for British Columbia, for the month of March 1967. Provincial government payrolls for the whole of the year ended Mar. 31, 1967 amounted to \$1,410,585,000, payrolls for departmental services employees amounted to \$840,264,000 and accounted for 59.6 p.c. of the total, those of institutions of higher education received \$154,133,000 or 10.9 p.c., those of provincial government enterprises \$398,558,000 or 28.2 p.c., and those of workmen's compensation boards \$17,630,000 or 1.3 p.c. of the total.

The only data available for British Columbia and included in the table are for employees of institutions of higher education.

7.—Provincial Government Employment and Payrolls, for March 1957

Province or Territory and Item	Departmental Services	Provincial Institutions of Higher Education	Provincial Government Enterprises	Workmen's Compensation Boards	Total
Newfoundland—					
Employees.....No.	8,771	471	545	55	9,842
Gross payrolls.....\$	2,575,337	256,137	197,500	19,343	3,048,317
Prince Edward Island—					
Employees.....No.	2,055	—	68	11	2,134
Gross payrolls.....\$	583,959	—	17,797	4,635	606,391
Nova Scotia—					
Employees.....No.	12,205	—	1,294	72	13,571
Gross payrolls.....\$	3,475,402	—	509,450	36,356	4,021,208
New Brunswick—					
Employees.....No.	8,023	909	2,401	62	11,395
Gross payrolls.....\$	3,037,108	382,198	1,074,533	28,453	4,522,292
Quebec—					
Employees.....No.	46,646	—	17,675	1,202	65,523
Gross payrolls.....\$	16,355,873	—	9,758,297	317,092	26,431,262
Ontario—					
Employees.....No.	57,984	10,389	21,351	1,396	91,120
Gross payrolls.....\$	28,227,833	4,908,174	12,000,166	848,735	45,984,908
Manitoba—					
Employees.....No.	9,616	3,616	7,224	116	20,572
Gross payrolls.....\$	3,928,999	1,416,424	3,559,805	47,959	8,953,187
Saskatchewan—					
Employees.....No.	10,272	4,019	6,781	123	21,195
Gross payrolls.....\$	4,429,347	1,719,927	3,503,620	58,174	9,711,068
Alberta—					
Employees.....No.	19,166	7,404	8,549	450	35,569
Gross payrolls.....\$	8,452,918	2,856,826	3,495,441	208,425	15,013,610
British Columbia—					
Employees.....No.	..	6,326	..	..	6,326
Gross payrolls.....\$	..	2,434,159	..	..	2,434,159
Yukon and Northwest Territories— ¹					
Employees.....No.	629	—	61	—	690
Gross payrolls.....\$	322,291	—	22,254	—	344,545
All Provinces and Territories—					
Employees.....No.	175,367	33,134	65,949	3,487	277,937
Gross payrolls.....\$	71,389,067	13,973,845	34,138,863	1,569,172	121,070,947

¹ Departmental services of the Northwest Territories are staffed by employees of the Government of Canada who are included in the statistics under "Federal Government Employment".

PART V.—CANADA'S EXTERNAL RELATIONS*

Section 1.—Canada's International Status

The growth of Canada's international status is reflected in the development of the Department of External Affairs. From Confederation until 1914, Canada's position in the British Empire was essentially that of a self-governing colony, whose external relations were directed and controlled by the Imperial Government in Great Britain. Canada's first efforts concerning its own external relations, in the early 1900s, merely took the form of creating improved administrative machinery at home. In 1909, Parliament authorized the establishment of a "Department of External Affairs" placing it under the Secretary of State, with an Under-Secretary of State for External Affairs to rank as the

* Prepared (June 1967) by the Department of External Affairs, Ottawa.

permanent deputy head of the Department. The title of the Department indicated that it was to deal with Canada's relations with other governments within the British Empire as well as with foreign powers but its establishment brought no constitutional change. In 1912, the Department was placed directly under the Prime Minister who held the additional portfolio of Secretary of State for External Affairs and this situation obtained until 1946 when the first separate Secretary of State for External Affairs was appointed.

The Department began with a modest staff consisting of the Under-Secretary and six clerks. In 1912 an Assistant Under-Secretary was added, and in 1913 a Legal Adviser. Before the establishment of the Department, a High Commissioner had been appointed to represent Canada in London (from 1880) and an Agent-General in France (from 1882), and Canada, in the closing years of the nineteenth century, was also represented abroad by trade commissioners and immigration officials. However, none of these officials had diplomatic status. Negotiations with foreign countries were conducted through the British Foreign Office and dealings with other parts of the Empire through the Colonial Office, with Canadian representatives frequently included in negotiations. Canadian interests abroad were handled by British diplomatic and consular authorities and all Canadian communications to other governments were made through the Governor General.

The gradual recognition of Canadian autonomy in international affairs and the growth of Canadian responsibilities abroad made expansion of services and representation inevitable. After 1920, it became increasingly apparent that Canada's interests could no longer be conveniently handled by the British diplomatic and consular authorities and the Department began to develop into an agency for the direct administration of Canada's external affairs. In 1921, the Office of the High Commissioner in London was placed under its direct control. In 1925, a Canadian Advisory Officer was appointed in Geneva to represent Canada at various conferences and League of Nations Assemblies and to keep the Canadian Government informed of the activities of the League and of the International Labour Office. In 1926, a Canadian Minister was appointed to Washington.

An advance of the first importance in the Department's development came as a result of an agreement reached at the Imperial Conference of 1926 by which the Governor General ceased to represent the British Government and became solely the personal representative of the Sovereign. This brought about two changes: as the British Government was now without a representative in Canada, it appointed, in 1928, a High Commissioner to represent it at Ottawa; and after July 1, 1927, correspondence from the Dominions Office in London and from foreign governments was directed to the Secretary of State for External Affairs instead of to the Governor General.

In 1928, the former Agent-General in Paris was appointed Minister to France and, in 1929, a legation was opened in Tokyo. At about the same time, the United States, France and Japan opened legations in Ottawa. The expansion of the service was then interrupted by the depression of the 1930s and the next step in the exchange of diplomatic representatives with other countries was taken when Belgium sent a Minister to Ottawa in 1937 and Canada, in 1939, established legations in Belgium and The Netherlands.

With the outbreak of the Second World War, it became imperative that Canada have closer and more direct contact with other governments of the Commonwealth, with the Allied governments and with certain other foreign governments. The day after Canada's separate declaration of war on Sept. 10, 1939, it was announced that the Canadian Government would send High Commissioners to Australia, New Zealand, South Africa and Ireland, and these governments reciprocated. The appointment in 1941 of a High Commissioner to Newfoundland recognized the importance of that country to the defence of Canada. In 1941, by reciprocal agreement, Canada appointed Ministers to the U.S.S.R. and China. During the War, a single Canadian Minister was accredited to a number of Allied governments then functioning in London or Cairo—those of Belgium, The Netherlands, Czechoslovakia, Greece, Norway, Poland and Yugoslavia, and Canada received Ministers from each of these governments. After the liberation of France, this Minister, following a period in Algiers as representative to the French Committee of National Liberation, moved to Paris with the rank of Ambassador.

Another wartime development was the establishment of diplomatic relations with Latin America. In 1941, Canadian legations were opened in Brazil and the Argentine Republic (the Minister to the latter being also accredited in 1941 to Chile), and these countries sent their first Ministers to Ottawa. Diplomatic representatives were sent to Mexico and Peru in 1944 and to Cuba in 1945. Canada now has diplomatic relations with all countries in Latin America and because of developing ties with that area, a separate political division devoted to Latin America was set up in the Department in 1960.

Canada's external affairs services continued to expand following the War. Embassies were opened in a number of countries and, after 1947, High Commissioners were accredited to India and Pakistan and subsequently to Jamaica, Malaysia, Nigeria, Sierra Leone, Tanzania, Trinidad and Tobago, Uganda, Kenya and Malta.

Membership in the United Nations has increased Canada's responsibilities outside its own borders and Canada has been represented on various organs of the UN since its formation in San Francisco in 1945. A Permanent Canadian Delegation was established in New York in 1948 and a year later a Canadian office was opened in Geneva, the European headquarters of the organization. These offices, now called Permanent Missions, have since been expanded. Canada was one of the founding members of the North Atlantic Treaty Organization in 1949 and has been active in the Organization throughout the years of its existence. In 1952, on the establishment of a NATO Permanent Council, a Canadian Permanent Delegation was set up in Paris (since moved to Brussels) to represent Canada's NATO interest. There is also in Paris a Canadian Permanent Delegation to the Organization for Economic Co-operation and Development. In addition to representing Canada on these permanent international bodies and their various committees, officials of the Department of External Affairs have been members of Canadian delegations at many international conferences in recent years.

Today, Canada conducts its external relations with some 85 countries. Diplomatic representation abroad and representation of other countries in Canada is given in Section 2 following, and Section 3 reports Canada's main international activities during 1966 and early 1967. A brief review of the present functions and organization of the Department of External Affairs is given at p. 130 of this volume; a broader coverage may be found in the monthly bulletin *External Affairs* (Queen's Printer, Ottawa, \$2 per year) and in the Annual Report of the Department.

Section 2.—Diplomatic Representation as at June 30, 1967

NOTE.—Changes in this listing subsequent to June 30, 1967 and names of current representatives are given in *Canadian Representatives Abroad and Representatives of Other Countries in Canada*, published thrice yearly and obtainable from the Queen's Printer, Ottawa, price 60 cents per copy.

1.—Canadian Representation Abroad

Country and Year Representation Established	Present Status of Representative	Address
Algeria.....1965	*Ambassador.....	c/o Canadian Embassy, 88 Kirchenfeldstrasse, Berne, Switzerland
Argentina.....1941	Ambassador.....	Brunetta Bldg., Sui Pacha and Santa Fe, Buenos Aires
Australia.....1939	High Commissioner.....	Commonwealth Ave., Canberra
Austria.....1952	Ambassador.....	49-51 Obere Donaustrasse, Vienna
Barbados.....1966	*High Commissioner.....	c/o Office of High Commissioner for Canada, 72 South Quay, Port-of-Spain
Belgium.....1939	Ambassador.....	35, rue de la Science, Brussels
Bolivia.....1961	*Ambassador.....	c/o Canadian Embassy, Edificio Boza, Carabaya 831, 3° Piso, Plaza San Martin, Lima, Peru
Brazil.....1941	Ambassador.....	Avenida Presidente Wilson 165, Rio de Janeiro
Britain.....1880	High Commissioner.....	Canada House, Trafalgar Square, London S.W.1

* Dual accreditation; representative not resident in the country.

1.—Canadian Representation Abroad—continued

Country and Year Representation Established	Present Status of Representative	Address
Burma.....1958	*Ambassador.....	c/o Office of the High Commissioner for Canada, Ampang Rd., Kuala Lumpur, Malaysia
Cameroon.....1962	Ambassador.....	Immeuble Soppo Priso, rue Joseph Clerc, Yaounde
Central African Republic.....1962	*Ambassador.....	Immeuble Soppo Priso, rue Joseph Clerc, Yaounde, Cameroon
Ceylon.....1953	High Commissioner.....	6 Gregory's Road, Cinnamon Gardens, Colombo
Chad.....1962	*Ambassador.....	Immeuble Soppo Priso, rue Joseph Clerc, Yaounde, Cameroon
Chile.....1942	Ambassador.....	Agustinas 1225, Santiago
Colombia.....1953	Ambassador.....	Carrera 10, 16-92, Bogota
Congo (Brazzaville).....1962	*Ambassador.....	Immeuble Soppo Priso, rue Joseph Clerc, Yaounde, Cameroon
Congo (Kinshasa).....1962	Ambassador.....	Building C.C.C.I., Boulevard du 30 juin, Kinshasa
Costa Rica.....1961	Ambassador.....	Edificio Banco Anglo Costarricense, Ave- nida 2y Calle 3, San José
Cuba.....1945	Ambassador.....	Calle 30, No. 518, Esquina a7a, Miramar, Havana
Cyprus.....1961	High Commissioner.....	15A Heroes St., Nicosia
Czechoslovakia.....1943	Ambassador.....	Mickiewiczova 6, Prague 6
Dahomey.....1962	*Ambassador.....	c/o Office of the High Commissioner for Canada, New Barclays Bank Bldg., 40 Marina Dr., Lagos, Nigeria
Denmark.....1946	Ambassador.....	Princesses Maries Allé 2, Copenhagen
Dominican Republic.....1954	Ambassador.....	Edificio Copello, 79 Calle El Conde, Santo Domingo
Ecuador.....1961	Ambassador.....	Edificio I.C.S.A., 120 Diagonal Seminario Menor y Avenida 10 de Agosto, Quito
El Salvador.....1962	*Ambassador.....	c/o Canadian Embassy, Edificio Banco Anglo Costarricense, Avenida 2y Calle 3, San José, Costa Rica
Ethiopia.....1966	Ambassador.....	African Solidarity Insurance Bldg., Haile Selassie I Square, Addis Ababa, Ethiopia
Finland.....1949	Ambassador.....	Pohjois Esplanadikatu 25B, Helsinki
France.....1928	Ambassador.....	35 avenue Montaigne, Paris 8
Gabon.....1962	*Ambassador.....	Immeuble Soppo Priso, rue Joseph Clerc, Yaounde, Cameroon
Germany.....1950	Ambassador.....	Zitellmannstrasse 22, Bonn
Ghana.....1957	High Commissioner.....	E 115/3 Independence Ave., Accra
Greece.....1943	Ambassador.....	31, avenue Vassilissis Sofias, Athens 138
Guatemala.....1961	*Ambassador.....	5a Avenida 11-70 Zona I, Guatemala City
Guinea.....1962	*Ambassador.....	c/o Canadian Embassy, 45 avenue de la République, Dakar, Senegal
Guyana.....1964	High Commissioner.....	91B Middle St., Georgetown
Haiti.....1954	Ambassador.....	Route du Canapé Vert, St. Louis de Turgeau, Port-au-Prince
Honduras.....1961	*Ambassador.....	c/o Canadian Embassy, Edificio Banco Anglo Costarricense, Avenida 2y Calle 3, San José, Costa Rica
Hungary.....1965	*Ambassador.....	c/o Canadian Embassy, Mickiewiczova 6, Prague 6, Czechoslovakia
Iceland.....1949	*Ambassador.....	c/o Canadian Embassy, Fridtjof Nansens Plass 5, Oslo, Norway
India.....1947	High Commissioner.....	4 Aurangzeb Rd., New Delhi
Indonesia.....1953	Ambassador.....	Djalan Budi Kemuliaan No. 6, Djakarta
Iran.....1958	Ambassador.....	Bezrouke House, corner of Takhte Djam- chid Ave. and Forsat St., Tehran
Iraq.....1961	*Ambassador.....	c/o Canadian Embassy, P.O. Box 1610, Tehran, Iran
Ireland.....1940	Ambassador.....	10 Clyde Rd., Balls-Bridge, Dublin
Israel.....1953	Ambassador.....	84 Hahashmonaim St., Tel Aviv
Italy.....1947	Ambassador.....	Via G.B. de Rossi 27, Rome
Ivory Coast.....1962	*Ambassador.....	c/o Office of the High Commissioner for Canada, E 115/3 Independence Ave., Accra, Ghana
Jamaica.....1962	High Commissioner.....	Dominion Life Bldg., Tobago Rd., Kingston 10
Japan.....1929	Ambassador.....	16 Omote-Machi, 3-Chome, Akasaka Mina- to-ku, Tokyo
Jordan.....1965	*Ambassador.....	c/o Canadian Embassy, Immeuble Alpha, rue Clemenceau, Beirut, Lebanon

* Dual accreditation; representative not resident in the country.

1.—Canadian Representation Abroad—continued

Country and Year Representation Established	Present Status of Representative	Address
Kenya.....1965	*High Commissioner.....	c/o Silo Park House, Queensway, Nairobi
Korea.....1964	*Ambassador.....	c/o Canadian Embassy, 16 Omote-Machi, 3-Chome, Akasaka Minato-ku, Tokyo, Japan
Kuwait.....1965	*Ambassador.....	c/o Canadian Embassy, Bezrouke House, corner of Takhte Djamchid Ave. and Forsat St., Tehran, Iran
Lebanon.....1954	Ambassador.....	Immeuble Alpha, rue Clemenceau, Beirut
Luxembourg.....1945	*Ambassador.....	c/o Canadian Embassy, 35 rue de la Science, Brussels, Belgium
Malaysia.....1958	High Commissioner.....	American International Assurance Bldg., Ampang Rd., Kuala Lumpur
Malta.....1964	*Ambassador.....	c/o Canadian Embassy, via G.B. de Rossi 27, Rome, Italy
Mexico.....1944	Ambassador.....	Melchor Ocampo 463-7, Mexico 5, D.F.
Morocco.....1962	*Ambassador.....	c/o Canadian Embassy, Edificio España, Plaza de España 2, Madrid, Spain
Nepal.....1965	*High Commissioner.....	c/o Office of the High Commissioner for Canada, 4 Aurangzeb Rd., New Delhi, India
Netherlands.....1939	Ambassador.....	5 and 7 Sophialaan, The Hague
New Zealand.....1940	High Commissioner.....	I.C.I. Building, Molesworth St., N.I., Wellington
Nicaragua.....1961	*Ambassador.....	c/o Canadian Embassy, Edificio Banco Anglo Costarricense, Avenida 2y Calle 3, San José, Costa Rica
Niger.....1962	*Ambassador.....	c/o Office of the High Commissioner for Canada, New Barclays Bank Bldg., 40 Marina Dr., Lagos, Nigeria
Nigeria.....1960	High Commissioner.....	New Barclays Bank Bldg., 40 Marina Dr., Lagos
Norway.....1943	Ambassador.....	Fridtjof Nansens Plass 5, Oslo
Pakistan.....1950	High Commissioner.....	54 Lawrence Road, Rawalpindi, Pakistan
Panama.....1961	*Ambassador.....	c/o Canadian Embassy, Edificio Banco Anglo Costarricense, Avenida 2y Calle 3, San José, Costa Rica
Paraguay.....1962	*Ambassador.....	c/o Canadian Embassy, Bartolomé Mitre 478, Buenos Aires, Argentina
Peru.....1944	Ambassador.....	Edificio El Pacifico-Washington, 7 Piso, Plaza Washington, Lima
Poland.....1943	Ambassador.....	Ulica Katowicka 31, Saska Kepa, Warsaw
Portugal.....1952	Ambassador.....	Rua Marques da Fronteira No. 8, Lisbon
Republic of Zambia.....1966	*High Commissioner.....	c/o Canadian Embassy, Bldg. C.C.C.I., Boulevard du 30 juin, Leopoldville
Senegal.....1962	Ambassador.....	4 avenue de la République, Immeuble Daniel Sorono, Dakar
Sierra Leone.....1961	*High Commissioner.....	c/o Office of the High Commissioner for Canada, New Barclays Bank Bldg., 40 Marina Dr., Lagos, Nigeria
Singapore.....1966	High Commissioner.....	American International Bldg., Robinson Road and Telegraph St.
South Africa.....1940	Ambassador.....	Standard General Bldg., 238 Vermeulen St., Pretoria
Spain.....1953	Ambassador.....	Edificio España, Plaza de España 2, Madrid
Sudan.....1961	*Ambassador.....	c/o Canadian Embassy, 6 Sharia Roustom Pasha, Garden City, Cairo, United Arab Republic
Sweden.....1947	Ambassador.....	Strandvägen 7-C, Stockholm
Switzerland.....1947	Ambassador.....	88 Kirchenfeldstrasse, Berne
Syrian Arab Republic.....1965	*Ambassador.....	c/o Canadian Embassy, Immeuble Alpha, rue Clemenceau, Beirut, Lebanon
Thailand.....1961	Ambassador.....	Post Office Box 2090, Bangkok, Thailand
Togo.....1962	*Ambassador.....	c/o Office of the High Commissioner for Canada, E 115/3 Independence Ave., Accra, Ghana
Trinidad and Tobago.....1962	High Commissioner.....	72 South Quay, Port-of-Spain, Trinidad
Tunisia.....1961	*Ambassador.....	Villa Ben Lamine Mutuelleville, Tunis
Turkey.....1947	Ambassador.....	Ahmet Agaoglu Sokagi, No. 32, Cankaya, Ankara
Uganda.....1962	*High Commissioner.....	c/o Office of the High Commissioner for Canada, Gailey and Roberts Bldg., In- dependence Ave., Dar-es-Salaam, United Republic of Tanzania

* Dual accreditation; representative not resident in the country.

1.—Canadian Representation Abroad—continued

Country and Year Representation Established	Present Status of Representative	Address
Union of Soviet Socialist Republics.....1943	Ambassador.....	23 Starokonyushenny Pereulok, Moscow
United Arab Republic.....1954	Ambassador.....	6 Sharia Roustom Pasha, Garden City, Cairo
United Republic of Tanzania.....1962 (1964)	High Commissioner.....	Gailey and Roberts Bldg., Independence Ave., Dar-es-Salaam
United States of America.....1927	Ambassador.....	1746 Massachusetts Ave. N.W., Washington 6, D.C.
Upper Volta.....1962	*Ambassador.....	c/o Office of the High Commissioner for Canada, E 115/3 Independence Ave., Accra, Ghana
Uruguay.....1952	Ambassador.....	1409 Avenida Agraciada, Montevideo
Venezuela.....1952	Ambassador.....	Avenida La Estancia No. 10, Ciudad Comercial Tamanaco, Caracas
Yugoslavia.....1943	Ambassador.....	Proliterskih Brigada 69, Belgrade
Other Missions		
Canadian Military Mission....1946	*Head of Mission.....	Pertshire Block, Olympic Stadium, British Headquarters, Berlin (British Sector)
Delegation of Canada to the International Commission for Supervision and Control in Cambodia.....1954	Commissioner.....	224 Kéo Chéa, Phnom Penh
Delegation of Canada to the International Commission for Supervision and Control in Laos.....1954	Commissioner.....	rue Tat Luang, Vientiane
Delegation of Canada to the International Commission for Supervision and Control in Viet-Nam.....1954	Commissioner.....	Cap Vo Thanh, P.O. Box 220, Saigon
Delegation of Canada to the North Atlantic Council.....1952	Permanent Representative and Ambassador.....	Place du Maréchal de Lattre de Tassigny, Paris 16
Organization for Economic Co-operation and Development.....1961	Permanent Representative....	Place du Maréchal de Lattre de Tassigny, Paris 16
Mission of Canada to European Communities.....1960	Head of Mission.....	35, rue de la Science, Brussels 4
Permanent Mission of Canada to the United Nations.....1943	Permanent Representative and Ambassador.....	750 Third Ave., New York, N.Y. 10017
Permanent Mission of Canada to the Office of the United Nations in Geneva.....1943	Permanent Representative and Ambassador.....	16, Parc du Château Banquet, Geneva
Canadian Delegation to the Conference of the Eighteen-Nation-Committee on Disarmament.....1962	Ambassador and Adviser to the Government on Disarmament	2, Parc du Château Banquet, Geneva
Permanent Delegation of Canada to the United Nations Educational, Scientific and Cultural Organization.....1960	Minister and Permanent Delegate.....	1, rue Chanez, Paris 16
Consulates		
Brazil.....1947	Consul.....	Edifício Scarpa, Av. Paulista, 1765, 9º andar, São Paulo
France.....1965	Consul General.....	15 bis Allées de Chartres, 33-Bordeaux
".....1965	Consul General.....	24 avenue du Prado, Marseille, Bouche-du-Rhône
Germany.....1956	Consul General.....	Esplanade 41-47, Hamburg
".....1961	Consul.....	4 Duesseldorf 1, Koenigsallee 82, Duesseldorf

* Dual accreditation; representative not resident in the country.

1.—Canadian Representation Abroad—concluded

Country and Year Representation Established	Present Status of Representative	Address
Consulates—concluded		
Italy.....1963	Consul General.....	Via Vittor Pisani 19, Milan
Republic of the Philippines...1949	Consul General.....	1414 Roxas Blvd., Manila
United States of America....1948	Consul General.....	500 Boylston St., Boston 16, Mass. 02116
“.....1947	Consul General.....	310 South Michigan Ave., Chicago, Ill. 60604
“.....1964	Consul.....	Illuminating Bldg., 55 Public Square, Cleveland, Ohio 44113
“.....1948	Consul.....	1920 First Federal Bldg., 1001 Woodward Ave., Detroit 26, Mich. 48226
“.....1953	Consul General.....	510 W. Sixth St., Los Angeles 14, Cal. 90014
“.....1952	Consul General.....	2110 International Trade Mart, 2 Canal St. New Orleans 12, La. 70130
“.....1943	Consul General.....	680 Fifth Ave., New York, N.Y. 10019
“.....1961	Consul.....	3 Penn Center Plaza, Philadelphia 2, Pa. 19002
“.....1948	Consul General.....	333 Montgomery St., San Francisco 4, Cal. 94104
“.....1953	Consul General.....	1308 Tower Bldg., 7th Ave., at Olive Way, Seattle 1, Wash. 98101

2.—Representation of Other Countries in Canada

Country and Year Representation Established	Present Status of Representative	Address
Algeria.....1964	Ambassador.....	2200 R St. N.W., Washington, D.C. 20008, U.S.A.
Argentina.....1941	Ambassador.....	211 Stewart St., Ottawa
Australia.....1940	High Commissioner.....	90 Sparks St., Ottawa
Austria.....1952	Ambassador.....	445 Wilbrod St., Ottawa
Belgium.....1937	Ambassador.....	85 Range Rd., Ottawa
Bolivia.....1966	Ambassador.....	R.M. 212-1145 19th St. N.W., Washington, D.C. 20036, U.S.A.
Brazil.....1941	Ambassador.....	450 Wilbrod St., Ottawa
Britain.....1928	High Commissioner.....	80 Elgin St., Ottawa
Burma.....1958	Chargé d'Affaires <i>ad interim</i>	116 Albert St., Ottawa
Cameron.....1962	Ambassador.....	85 Range Rd., Ottawa
Ceylon.....1957	High Commissioner.....	85 Range Rd., Ottawa
Chile.....1942	Ambassador.....	56 Sparks St., Ottawa
China.....1942	Ambassador.....	85 Range Rd., Ottawa
Colombia.....1953	Ambassador.....	140 Wellington St., Ottawa
Congo (Kinshasa).....1965	Chargé d'Affaires <i>ad interim</i>	54 Range Rd., Ottawa
Costa Rica.....1963	Ambassador.....	c/o Embassy of Costa Rica, 2112 S St. N.W., Washington, D.C. 20003, U.S.A.
Cuba.....1945	Ambassador.....	330 Chapel St., Ottawa
Cyprus.....1964	High Commissioner.....	c/o Embassy of Cyprus, 2211 R St. N.W., Washington, D.C. 20003, U.S.A.
Czechoslovakia.....1942	Ambassador.....	171 Clemow Ave., Ottawa
Dahomey.....1964	Ambassador.....	c/o Embassy of Dahomey, 6600-16th St. N.W., Washington, D.C. 20012, U.S.A.
Denmark.....1946	Ambassador.....	85 Range Rd., Ottawa
Dominican Republic.....1954	Ambassador.....	200 Rideau Terrace, Ottawa
Ecuador.....1961	Chargé d'Affaires <i>ad interim</i>	56 Sparks St., Ottawa
El Salvador.....1962	Ambassador.....	c/o Embassy of El Salvador, 2308 California St. N.W., Washington, D.C. 20008, U.S.A.
Finland.....1948	Ambassador.....	85 Range Rd., Ottawa
France.....1928	Ambassador.....	42 Sussex Dr., Ottawa
Gabon.....1962	Ambassador.....	4900-16th St. N.W., Washington, D.C. 20011, U.S.A.
Germany.....1951	Ambassador.....	1 Waverley St., Ottawa
Ghana.....1961	High Commissioner.....	85 Range Rd., Ottawa
Greece.....1942	Ambassador.....	Chateau Laurier Hotel, Ottawa
Guatemala.....1961	Ambassador.....	2220 R St. N.W., Washington, D.C. 20008, U.S.A.
Guinea.....1962	Ambassador.....	c/o Embassy of Guinea, 2112 Leroy Pl. N.W., Washington, D.C. 20003, U.S.A.
Guyana.....1966	High Commissioner.....	c/o Embassy of Guyana, 1701 Pennsylvania Ave., Washington, D.C. 20006, U.S.A.
Haiti.....1954	Ambassador.....	150 Driveway, Ottawa
Hungary.....1964	Chargé d'Affaires <i>ad interim</i>	7 Delaware Ave., Ottawa

2.—Representation of Other Countries in Canada—continued

Country and Year Representation Established	Present Status of Representative	Address
Iceland.....1948	Ambassador.....	c/o Embassy of Iceland, 2022 Connecticut, Washington, D.C. 20008, U.S.A.
India.....1947	High Commissioner.....	200 MacLaren St., Ottawa
Indonesia.....1953	Ambassador.....	85 Range Rd., Ottawa
Iran.....1956	Ambassador.....	85 Range Rd., Ottawa
Iraq.....1961	Ambassador.....	1801 P St. N.W., Washington, D.C. 20036, U.S.A.
Ireland.....1939	Ambassador.....	170 Metcalfe St., Ottawa
Israel.....1953	Ambassador.....	45 Powell Ave., Ottawa
Italy.....1947	Ambassador.....	172 MacLaren St., Ottawa
Ivory Coast.....1964	Ambassador.....	c/o Embassy of Ivory Coast, 2424 Massa- chusetts Ave. N.W., Washington, D.C. 20008, U.S.A.
Jamaica.....1962	High Commissioner.....	85 Range Rd., Ottawa
Japan.....1928	Ambassador.....	75 Albert St., Ottawa
Korea.....1963	Ambassador.....	151 Slater St., Ottawa
Kuwait.....1965	Ambassador.....	2940 Tilden St. N.W., Washington, D.C. 20008, U.S.A.
Lebanon.....1955	Ambassador.....	401 Albert St., Ottawa
Luxembourg.....1950	Ambassador.....	c/o Embassy of Luxembourg, 2210 Massa- chusetts Ave. N.W., Washington, D.C. 20008, U.S.A.
Madagascar.....1965	Ambassador.....	c/o Embassy of the Malagasy Republic, 2374 Massachusetts Ave. N.W., Washington, D.C. 20008, U.S.A.
Malaysia.....1967	High Commissioner.....	88 Albert St., Ottawa
Mali.....1963	Ambassador.....	c/o Embassy of Mali, 2130 R St. N.W., Washington, D.C. 20008, U.S.A.
Mauritania.....1967	Ambassador.....	c/o Embassy of the Islamic Republic of Mauritania, 2737 Cathedral Ave. N.W., Washington, D.C. 20008, U.S.A.
Mexico.....1944	Ambassador.....	88 Metcalfe St., Ottawa
Morocco.....1962	Ambassador.....	c/o Embassy of Morocco, 1601-21st St. N.W., Washington, D.C. 20009, U.S.A.
Nepal.....1966	Ambassador.....	c/o Embassy of Nepal, 2131 Leroy Pl. N.W., Washington, D.C. 20008, U.S.A.
Netherlands.....1939	Ambassador.....	12 Marlborough Ave., Ottawa
New Zealand.....1942	High Commissioner.....	77 Metcalfe St., Ottawa
Nicaragua.....1963	Ambassador.....	1627 New Hampshire Ave. N.W., Washing- ton, D.C. 20009, U.S.A.
Niger.....1963	Ambassador.....	c/o Embassy of Niger, 2204 R St. N.W., Washington, D.C. 20009, U.S.A.
Nigeria.....1966	High Commissioner.....	151 Slater St., Ottawa
Norway.....1942	Ambassador.....	140 Wellington St., Ottawa
Pakistan.....1949	High Commissioner.....	505 Wilbrod St., Ottawa
Panama.....1962	Ambassador.....	c/o Embassy of Panama, 2601-29th St. N.W., Washington, D.C. 20008, U.S.A.
Peru.....1944	Ambassador.....	539 Island Park Drive, Ottawa
Poland.....1942	Ambassador.....	10 Range Rd., Ottawa
Portugal.....1952	Ambassador.....	285 Harmer Ave., Ottawa
Rwanda.....1965	Ambassador.....	c/o Embassy of the Republic of Rwanda, 1714 New Hampshire Ave. N.W., Wash- ington, D.C. 20009, U.S.A.
Senegal.....1963	Ambassador.....	c/o Embassy of Senegal, 2112 Wyoming Ave. N.W., Washington, D.C. 20008, U.S.A.
South Africa.....1938	Ambassador.....	15 Sussex Dr., Ottawa
Spain.....1953	Ambassador.....	124 Springfield Rd., Ottawa
Sudan.....1966	Ambassador.....	c/o Permanent Mission of the Sudan to the United Nations, 757 Third Ave., New York 17, N.Y., U.S.A.
Sweden.....1943	Ambassador.....	140 Wellington St., Ottawa
Switzerland.....1946	Ambassador.....	5 Marlborough Ave., Ottawa
Thailand.....1962	Chargé d'Affaires <i>ad interim</i>	119 Range Rd., Ottawa
Togo.....1966	Ambassador.....	c/o Embassy of the Republic of Togo, 2208 Massachusetts Ave. N.W., Washington, D.C. 20008, U.S.A.
Trinidad and Tobago.....1962	High Commissioner.....	75 Albert St., Ottawa
Tunisia.....1957	Ambassador.....	c/o Tunisian Permanent Mission to the United Nations, Tunisia House, 40 East 71st St., New York 21, N.Y., U.S.A.
Turkey.....1944	Ambassador.....	197 Wurttemberg St., Ottawa
Uganda.....1964	High Commissioner.....	c/o Permanent Mission of Uganda to the United Nations, 801 Second Ave., New York 17, N.Y., U.S.A.
Union of Soviet Socialist Republics.....1942	Ambassador.....	285 Charlotte St., Ottawa

2.—Representation of Other Countries in Canada—concluded

Country and Year Representation Established	Present Status of Representative	Address
United Arab Republic.....1954	Ambassador.....	454 Laurier Ave. East, Ottawa
United Republic of Tanzania.....1965	High Commissioner.....	230 Gloucester St., Ottawa
United States of America.....1927	Ambassador.....	100 Wellington St., Ottawa
Upper Volta.....1966	Ambassador.....	c/o Embassy of the Republic of Upper Volta, 5500-16th St. N.W., Washington, D.C. 20011, U.S.A.
Uruguay.....1948	Chargé d'Affaires <i>ad interim</i> ...	124 Springfield Rd., Ottawa
Venezuela.....1953	Ambassador.....	140 Wellington St., Ottawa
Yugoslavia.....1942	Ambassador.....	17 Blackburn Ave., Ottawa

Section 3.—International Activities, 1966-67

Subsection 1.—Canada and Commonwealth Relations

The Commonwealth today has been transformed basically from the compact and like-minded family of nations of predominantly European stock which constituted the Commonwealth association from the enactment of the Statute of Westminster to 1947. With its present membership of 26 sovereign states covering about one quarter of the earth's land surface, representing more than 750,000,000 people of many colours, creeds and languages, and including both economically developed and under-developed countries as well as governments committed and uncommitted in the international power groupings, the Commonwealth more accurately reflects the world over which it spreads so widely. The interests of its members extend to all continents and the variety of problems demanding their attention has greatly increased in scarcely more than a decade.

Commonwealth members are enumerated according to the year (if post-1931, noted in brackets) when membership was proclaimed: Britain; Canada; Australia; New Zealand; India (1947); Pakistan (1947); Ceylon (1948); Ghana (1957); Malaya (1957); Nigeria (1960); Cyprus (1961); Sierra Leone (1961); Tanganyika (1961); Jamaica (1962); Trinidad and Tobago (1962); Uganda (1962); Kenya (1963); Malawi (1964); Malta (1964); Zambia (1964); The Gambia (1965); Singapore (1965); Guyana (1966); Botswana (1966); Lesotho (1966); and Barbados (1966). Early in 1964, Tanganyika joined Zanzibar to form the United Republic of Tanzania. When Singapore, Sarawak and Sabah joined the Federation in September 1963, Malaya became Malaysia; Singapore separated from Malaysia in August 1965.

A development of 1966 was the negotiation by six Commonwealth Caribbean territories—Antigua, Dominica, Grenada, St. Kitts-Nevis-Anguilla, St. Lucia and St. Vincent—of a new constitutional status in association with Britain. Under the West Indies Act, 1967, each of the West Indies (Associated States) acquired full control over its internal affairs with the right to amend its constitution, including the right to end the association and declare itself independent. Britain continues to be responsible for the defence and external relations of the Associated States but has delegated executive authority regarding certain aspects of their external relations to the respective governments.

The Commonwealth Secretariat, established by a 1965 decision of Prime Ministers, has its headquarters at Marlborough House, London. Its first Secretary-General is Mr. Arnold Smith, a Canadian. The Secretariat has the responsibility of organizing and servicing official Commonwealth conferences; it facilitates the exchange of information between member countries and generally stands at the service of all Commonwealth governments as a visible symbol of the spirit of co-operation which animates the Commonwealth. The Secretariat of the former Commonwealth Economic Committee and the Commonwealth Education Liaison Unit, both based in London, were integrated with the Secretariat at the end of 1966.

Membership in the Commonwealth is one of the fundamental aspects of Canadian foreign policy. Canada has supported the extension and development of a strong Commonwealth, capable of exerting significant influence for international peace and progress. Commonwealth ties give Canada a special relationship with this group of nations which, despite the diversity of their backgrounds, share important ideals and traditions in common. Commonwealth ties are characterized in the main by a spirit of co-operation developed through consultation and exchange of views. These are continuous not only in Commonwealth capitals but in other countries, and also at United Nations and other international gatherings.

In addition to these continuing exchanges at many levels, special meetings are convened for the purpose of discussing and co-ordinating the interests of Commonwealth members in various special fields, and to review international developments in the Commonwealth context. Two meetings of Heads of Government (Prime Ministers and Presidents) took place in 1966. The first was held in Lagos, Nigeria, in January to discuss Rhodesia and the second was held in London in September when discussions covered a wide range of international affairs. Other Ministerial meetings included the Law Ministers in London in April, the Trade Ministers in the same city in May and the Finance Ministers in Montreal in September. The Commonwealth Foundation, a semi-autonomous body financed by Commonwealth governments, came into being in 1966 with the aim of promoting contacts between professional persons within the Commonwealth. The Commonwealth Parliamentary Association met in Ottawa in September.

Canada's external aid for developing countries continued to be directed, in the main, to Commonwealth countries through the Colombo Plan, the Special Commonwealth Africa Assistance Plan (SCAAP), and the Canadian program for Commonwealth Caribbean assistance. Canada's total contribution under the Colombo Plan since its inception exceeds \$800,000,000. Canada aided Commonwealth countries in Africa through SCAAP to a total of \$56,500,000 for the period from 1960 to the end of March 1967. Approximately \$44,000,000 was made available for aid and technical assistance to Commonwealth Caribbean countries from 1958 to the end of March 1967.

Canada is an active participant in the Commonwealth Scholarship and Fellowship Plan (see also p. 186) and during the 1966-67 academic year received the full quota of 250 students under this Plan, 78 p.c. of them from the developing countries; 70 Canadian students continued their higher education in other Commonwealth countries. Canada is also playing a significant part in the training and provision of teachers for service in Commonwealth countries and assisting in plans for co-operation in technical education. During the academic year 1966-67, there were 665 Canadian teachers and university professors serving under Canadian Government aid programs in the less-developed countries of Southeast Asia, Africa and the Caribbean area, a very substantial proportion of them in Commonwealth countries.

Subsection 2.—Francophonie

Heir to the great traditions of the French language and culture, Canada is also contributing fully to the establishment of special links between francophone countries. Its bilateral relations with France have developed greatly in recent years through political consultations, parliamentary visits, cultural and scientific exchanges, increased trade, officer exchanges, defence production co-operation, and the like. Links with other French-speaking countries have also been strengthened by the establishment of diplomatic missions and developing exchanges in a number of fields. A growing proportion of Canadian economic aid has been directed to francophone countries in Africa (see p. 186). Canada is taking part in current endeavours to develop multilateral co-operation between French-speaking countries, a policy based on the recognition of the value to Canada of its ties with a multi-racial community of some 30 countries with 150,000,000 inhabitants, linked together by French culture.

Subsection 3.—Canada and the United Nations

Firm support for the United Nations is an essential element of Canadian foreign policy. Canada has contributed over the years to the efforts of the organization to keep the peace in various parts of the world, including the Middle East, Kashmir, the Congo, West Irian, and Cyprus. In the 1956 Middle East crisis, Canada played a significant role in the establishment of the United Nations Emergency Force and participated in the Force until its withdrawal in 1967. In 1960, Canada responded to a UN request for support of its operations in the Congo by supplying military and civilian specialists and by pledging political and financial support. In 1962, Canada provided aircraft, pilots and maintenance crews to assist the United Nations Temporary Executive Authority (UNTEA) in the exercise of its peacekeeping functions in West Irian. Canada maintains a large contingent in Cyprus (UNFICYP) to assist the UN to prevent open fighting between the Greek and Turkish communities. Canada has consistently advocated the strengthening of the peacekeeping capacity of the UN by means of advance planning at UN headquarters and advance cost-sharing arrangements and has taken steps to improve the readiness of its own forces and urged that others be invited to do the same. Despite slow progress and occasional setbacks, Canada continues to believe that the UN has an important role to play in the maintenance of international peace and security.

As a member of the eighteen-nation Disarmament Committee, Canada participates directly in the task of negotiating general and complete disarmament under effective international control and seeking agreement on measures to reduce international tension and lessen the possibility of war. In the Canadian view, it is of particular importance at this juncture to limit the spread of nuclear weapons and to extend to underground testing the treaty banning nuclear tests in the atmosphere, in outer space and under water.

Canada also participates directly in the work of the UN through its membership in various UN bodies including all of the 13 specialized agencies and the International Atomic Energy Agency. The International Civil Aviation Organization (ICAO), with headquarters in Montreal, is the only Specialized Agency of the UN with headquarters in Canada. The Fifteenth Session of the ICAO Assembly was held in Montreal in 1965 and the Assembly will meet again in 1968.

In 1967, Canada will complete a three-year term on the Economic and Social Council but will continue as a member of most of the important subsidiary bodies of the Council such as the Economic Commission for Latin America, the Committee for Programme and Co-ordination, the Inter-Governmental Committee of the UN/FAO World Food Programme, the Commission on Social Development, the Statistical Commission, the Commission on Narcotic Drugs and the Committee on Housing, Building and Planning.

Canada also serves on the Governing Council of the United Nations Development Programme (UNDP) and the Industrial Development Board of the newly established United Nations Industrial Development Organization (UNIDO) which replaced the Committee for Industrial Development. Canada participates directly on the Executive Committee of the Office of the United Nations Children's Fund (UNICEF), the Trade and Development Board of the United Nations Conference on Trade and Development (UNCTAD) and the Executive Committee of the Office of the United Nations High Commissioner for Refugees (since the Second World War, Canada has received approximately 300,000 refugees from overseas).

Canada belongs to 16 subsidiary bodies of the General Assembly, including the Committee on the Peaceful Uses of Outer Space, the Disarmament Commission, the Special Committee on Peacekeeping Operations and the United Nations Scientific Committee on the Effects of Atomic Radiation. Canada maintains Permanent Missions at both UN headquarters in New York and at the European Office of the organization in Geneva.

Canada pays 3.17 p.c. of the organization's regular budget and is the sixth largest contributor. In 1966 Canada's share of the gross expenses of \$131,167,000 (Cdn.) was approximately \$3,480,000, and its apportioned share for the costs of the United Nations Emergency Force in the Middle East (UNEF) was about 4 p.c. The cost to Canada of

maintaining its contingent in Cyprus was about \$3,000,000 in 1966. In addition, Canada makes voluntary contributions to special UN programs such as the United Nations Development Programme (UNDP), the United Nations High Commissioner for Refugees (UNHCR), the United Nations Children's Fund (UNICEF), the United Nations Relief and Works Agency in the Middle East (UNRWA) and the World Food Programme (WFP).

Canada's total assessment and contributions to the UN, its Specialized Agencies and related bodies totalled approximately \$240,000,000 during the period 1945-65 and about \$48,000,000 in 1966. In 1966 Canada's quota (assessed share of capital) for the International Bank for Reconstruction and Development (IBRD) and the International Monetary Fund (IMF) was increased about \$250,000,000, of which some \$55,000,000 was paid during 1966. The previous subscription quota of \$800,000,000 had been paid off in 1963.

Canada has been elected to a seat on the Security Council for 1967-68, having previously served in 1947-48 and 1958-59.

Canadian Financial Contributions to the United Nations.—In 1966, Canada's contributions to the United Nations system were as follows:—

<i>Agency</i>	<i>Percentage Assessment or Voluntary Contribution (V)</i>	<i>Contribution (Cdn. \$)</i>
United Nations—		
Regular Budget.....	3.17	3 481,620
Special Accounts.....		
Operations in the Middle East (UNEF).....	V	729,749
Force in Cyprus (UNFICYP).....	V	3,020,500 ¹
Relief and Works Agency (UNRWA)—		
Cash.....	V	500,000
Food Aid.....	V	700,000
World Food Programme—		
Cash.....	V	2,464,934
Commodities.....	V	6,775,000
High Commissioner for Refugees (UNHCR).....	V	350,000
United Nations Development Programme (UNDP) ²	V	9,500,000
Children's Fund (UNICEF).....	V	1,100,000 ³
Institute for Training and Research (UNITAR).....	V	60,000
United Nations International School Development Fund.....	V	35,000
Congo Civilian Fund.....	V	500,000
Specialized Agencies and International Atomic Energy Agency—		
International Labour Organization (ILO).....	3.36	735,672
Food and Agriculture Organization (FAO).....	4.17	978,478
World Health Organization (WHO).....	2.83	1,323,232
United Nations Educational, Scientific and Cultural Organization (UNESCO).....	2.98	752,530
International Civil Aviation Organization (ICAO).....	4.20	272,828
Inter-Governmental Maritime Consultative Organization (IMCO).....	1.43	14,067
International Telecommunication Union (ITU).....	3.23	164,000
World Meteorological Organization (WMO).....	2.63	48,000
Universal Postal Union (UPU) ⁴	2.68	33,000
International Development Association (IDA).....	V	15,030,000
International Bank for Reconstruction and Development (IBRD) (Subscription Increase).....	V	45,405,402 ⁵
International Finance Corporation (IFC) ⁶	V	205,405,390 ⁷
International Monetary Fund (IMF) (Quota Increase).....	V	
International Atomic Energy Agency (IAEA)		
Regular Budget.....	2.86	258,998
Operational Budget.....	V	61,204
Related Organizations—		
International Committee for the Red Cross.....	V	15,000
United Nations Association in Canada.....	V	17,000

¹ Estimated. This figure represents the cost to Canada of maintaining its contingent in Cyprus in 1966 after reimbursement for certain expenses by the UN; it does not include salaries and similar costs that Canada would have had to pay if the personnel had remained in Canada.

² UNDP was formed by the consolidation of the Expanded Programme of Technical Assistance (EPTA) and the Special Fund, according to the terms of resolution 2029(XX) of Nov. 22, 1965.

³ Includes a special contribution of \$100,000 made on Dec. 9, 1966 in memory of the children who died at Aberfan, Wales, and Dorion, Que.

⁴ Canada also contributed \$6 567 as its share of the costs of the UPU English Translation Service.

⁵ Of this amount, \$4,540 000 was actually paid to the IBRD; the remainder is available if required. The Canadian subscription to the IBRD now totals \$556 215,150.

⁶ There was no increase in the Canadian quota in the IFC in 1966.

⁷ Of this amount, Canada paid \$51,351,348 to the IMF in gold. The remainder is held by the IMF in the form of non-interest-bearing notes payable on demand in Canadian dollars. The increase brings Canada's quota in the IMF to approximately \$500,000,000.

Specialized Agencies.—Canada is a member of each of the 13 Specialized Agencies of the UN. Additionally, Canada holds membership in the International Atomic Energy Agency (IAEA), an autonomous international organization under the aegis of the UN. These Agencies are invested with wide international responsibilities established by inter-governmental agreement, and act in relationship with the UN to assist in carrying out the terms of the Charter. Co-ordination of activities of the Agencies is promoted by the Administrative Committee on Co-ordination established by the Economic and Social Council. This Committee is composed of the Secretary General of the UN, the executive heads of the Specialized Agencies, the Director General of the IAEA and other high officials of the UN. It considers common administrative questions, inter-agency program co-ordination and projects or problems of special urgency to be undertaken jointly by several Agencies. The Agencies also report annually to the Economic and Social Council of the UN.

International Labour Organization.—The International Labour Organization (ILO) was originally established with the League of Nations in 1919 and became a Specialized Agency of the UN in 1946. It brings together representatives of governments, employers and workers from 118 member states in an attempt to promote social budgets by improving living and working conditions in all parts of the world. The ILO is responsible for a number of technical programs financed by the United Nations Development Programme, as well as training programs under its regular budget. To further its work, the ILO holds numerous meetings during the year, including the International Labour Conference in Geneva each June. At the 50th session of the Conference in June 1966 the principal debate focused on the ILO's role in the industrialization of the developing countries.

Food and Agriculture Organization.—The Food and Agriculture Organization (FAO) came into being in 1945, the first Conference being held in that year in Quebec City. It now has 114 members. The objectives of the Organization are to raise the levels of nutrition and living standards of its members and to improve the techniques of the production and distribution of food and agricultural, fishery and forestry products. To this end, the FAO Secretariat collects, analyses and distributes technical and economic information and encourages appropriate national and international action. A Council meets twice a year to give direction and policy guidance to the Secretariat; the FAO Conference, which is the governing body of the Organization, meets every other year. Headquarters are in Rome, Italy.

Canada has participated actively in FAO activities and is a member of the Council, the Committee on Commodity Problems (CCP), the Consultative Sub-Committee on Surplus Disposals, the FAO Group on Grains, the North American Forestry Commission and other FAO bodies. A number of Canadians are on the staff at Rome headquarters and many Canadians have undertaken assignments under FAO technical assistance programs. Canadian membership in the Organization is provided for by an Act of the Canadian Parliament passed in 1945. A committee of officials from Canadian Government departments (the Canadian Interdepartmental FAO Committee) has been established to maintain liaison between the FAO Secretariat and the Canadian Government.

The World Food Programme first began operations on a three-year experimental basis at the beginning of 1963, under the joint auspices of the FAO and the UN. The Programme provides food aid on a multilateral basis for emergency relief and promotes economic and social development, including feeding of children. At a UN-FAO Pledging Conference in New York in January 1966, \$208,000,000 was pledged toward a second three-year program (1966-68). Canada, with a pledge of \$27,500,000, is the second largest supporter of the Programme.

The Freedom from Hunger campaign, started by FAO in 1960 and now extended until at least 1970, focused during 1966 on youth, on education and on self-help in the developing countries. A series of six seminars, enabling rural youth leaders, government officials and representatives of private organizations to study out-of-school rural youth programs will culminate in a world-wide conference called the Young World Food and Development Project to be held in Toronto in September 1967.

World Health Organization.—The World Health Organization (WHO) came into being in 1948 and is one of the largest of the Specialized Agencies of the UN, having a total membership of 127. Functioning through the World Health Assembly (an organization composed of an Executive Board, a Secretariat and six regional committees), WHO acts as a directing and co-ordinating authority on international health matters. In addition, it provides advisory and technical services to help countries develop and improve their health services. The 19th World Health Assembly was held in Geneva in May 1966. (See also the item "International Health" in Subsect. 7, Sect. 1, Part I of Chapter VI on Public Health, Welfare and Social Security.)

United Nations Educational, Scientific and Cultural Organization.—The United Nations Educational, Scientific and Cultural Organization (UNESCO) was established in 1946 "to contribute to peace and security by promoting collaboration among the nations through education, science and culture in order to further universal respect for justice, for the rule of law, for human rights and fundamental freedoms". Its headquarters is in Paris and total membership at the end of 1966 was 124 states.

The Organization is made up of three principal organs—the General Conference which is the policy-making body, the Executive Board and the Secretariat. Representatives from member states make up the General Conference which meets every two years to consider applications for membership, elect the Executive Board, plan the program and approve the budget for the ensuing two-year period. The 14th Session of the General Conference was held in Paris in October and November 1966. It approved a budget of \$61,500,000, giving priority to the educational needs of the developing countries and to science activities, particularly of the application of science to development; the Canadian assessment rate is 2.97. Further information about the Organization may be obtained from the Canadian National Commission for UNESCO, Ottawa.

International Civil Aviation Organization.—The ICAO, with headquarters in Montreal, is the only Specialized Agency of the UN with headquarters in Canada. It was established to study problems of international civil aviation and the establishment of international standards and regulations for civil aviation. ICAO operations are conducted through its Assembly, Council and Secretariat. Canada has been a member of the 27-nation Council, the governing body of ICAO, since its inception in 1947. The Assembly, consisting of all member states, is convened at least once in a three-year period to decide on policy and vote on the budget. The last Session (15th) of the Assembly was held in Montreal in June and July 1965; a Canadian held the Presidency of the Session.

International Telecommunication Union.—Canada is a member of the International Telecommunication Union (ITU), which traces its origin to the International Telegraph Convention of 1865 and the International Radio Telegraph Convention of 1906. The ITU is concerned with the maintenance of international co-operation for the improvement and use of telecommunications of all kinds for the benefit of the general public. It has 129 member countries. The International Telecommunication Convention which was adopted by the Plenipotentiary Conference of the Union at Montreux, Switzerland, in 1965 came into force on Jan. 1, 1967. Canada is represented on the 29-member Administrative Council, the executive organ of the ITU.

World Meteorological Organization.—Canada is a member of the World Meteorological Organization (WMO), a Specialized Agency of the UN since 1951 but developed from the International Meteorological Organization founded in 1878. The membership stands at 112. The Fifth World Meteorological Congress was held in Geneva Apr. 3-28, 1967, and approved a program for the development of an improved world-wide meteorological system which was given the name "World Weather Watch". Canada is a member of the Executive Committee of the Organization.

Inter-Governmental Maritime Consultative Organization.—The Inter-Governmental Maritime Consultative Organization (IMCO) was established in 1959 to promote international co-operation on technical shipping problems and the adoption of the highest standards

of safety and navigation and now has a membership of 65. IMCO exercises bureau functions for International Conventions on Safety of Life at Sea, Prevention of Pollution of the Sea by Oil and Facilitation of International Maritime Traffic. Canada was re-elected to the Administrative Council and the Maritime Safety Committee during their regular sessions held in London in May 1966.

Universal Postal Union.—With a membership of 129, the Universal Postal Union (UPU) is one of the largest of the Specialized Agencies of the UN; it is also one of the oldest, as it was founded in Berne in 1874 with the principal aim of improving postal services throughout the world and promoting international collaboration. The Universal Postal Congress is the supreme authority of the UPU and normally meets every five years to review the Universal Postal Convention and its subsidiary instruments. In the interim, UPU activities are carried on by an executive council of which Canada is at present a member, a consultative committee on postal studies, and an international bureau. The 15th Congress was held in Vienna in May-July 1964 and the 16th Congress will be held in Tokyo in 1969.

International Monetary Fund.—The International Monetary Fund, established by the Bretton Woods Conference in 1944, came into being in 1945. It provides machinery for international consultation and collaboration on monetary, payment and exchange problems, including the promotion of exchange stability, the elimination of exchange restrictions, the establishment of a multilateral system of current payments and the expansion and balanced growth of international trade. Also member countries under certain conditions may draw on the regular resources of the Fund, which now amount to some \$21,000,000,000 (of which the equivalent of about \$3,700,000,000 is in gold) or on the supplementary resources of \$6,000,000,000 made available in 1962 under the General Arrangements to Borrow, which in 1966 were extended until 1970. The Fund now has 105 members. Canada has been represented on the Fund's Executive Board since its inception.

International Bank for Reconstruction and Development.—The IBRD or World Bank was founded at the same time as the International Monetary Fund at the Bretton Woods Conference in 1944 to assist the development of productive resources in member countries by extending loans where private capital is not available on reasonable terms and by providing technical assistance. The loans are made from the paid-up subscriptions of member states, from the surplus accumulated by the Bank and from loans raised in the markets of member states. By Dec. 31, 1965, the subscribed capital was \$21,606,000,000 (U.S.). The Bank's first loans were for European postwar reconstruction but in 1948 the Bank turned to lending for development and an increasing proportion of its funds has been directed to the less-developed areas of the world. As of Dec. 31, 1965, the Bank had made 446 loans totalling nearly \$9,500,000,000 (U.S.) since it started operations in 1946 and had used or been able to allocate for lending the equivalent of approximately \$1,779,000,000 from paid-in capital, including the full \$75,000,000 of the paid-in portion of Canada's subscription. In 1966, IBRD lending totalled \$901,000,000 compared with about \$1,200,000,000 in 1965.

As in 1965, 1966 was marked by an intensive marketing campaign that included public offerings of the Bank's bonds in world markets. These offerings, aggregating the equivalent of \$312,000,000, included public issues of the Bank in the Canadian market for the second time in nearly 10 years. Two public offerings of \$20,000,000 (Cdn.) each were made in Canada in February and November 1966.

International Finance Corporation.—The function of the International Finance Corporation, which is an affiliate of the IBRD, is to promote the growth of productive private enterprise by assisting private capital, by acting as a clearing house in bringing together investment opportunities and private capital and by helping to enlist managerial skill and experience when not otherwise available to a project. Of a total capital subscription of \$99,400,000 (U.S.), Canada has provided \$3,600,000.

International Development Association.—The IDA, also an affiliate of the IBRD, was established in September 1960 to meet the situation of a growing number of less-developed countries whose need for an ability to make use of outside capital is greater than their ability to service conventional loans. Consequently, the terms of IDA development credits are designed to impose far less burden on the balance of payments of borrowing countries than conventional loans. Credits extended to date have each been for a term of 50 years, bearing no interest. At the end of 1965, paid-in and prospective resources of IDA amounted to \$1,676,300,000 (U.S.). Prospective contributions to be paid in over the three years 1965-68 (subject to legislative authorization) will amount to \$740,745,000 (U.S.) of which Canada's share will be \$41,700,000 (U.S.). IDA began operations in November 1960 and extended its first development credit in May 1961. By Dec. 31, 1965, it had extended a total of 79 development credits totalling \$1,192,300,000 to 30 countries in Africa, Asia, the Middle East and the Western Hemisphere. In 1966, IDA approved credits of nearly \$478,000,000, a new peak, compared with \$196,000,000 in 1965.

International Atomic Energy Agency.—Formed in 1957, the International Atomic Energy Agency (IAEA) is an autonomous international organization under the aegis of the UN. The Agency was given a mandate to seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world in a variety of ways. Because Canada has been designated as one of the five members most advanced in nuclear technology, including the production of source materials, a Canadian representative has served on the IAEA Board of Governors since the inception of the Agency.

As of June 1967, IAEA membership consisted of 98 states. The organization of conferences and symposia of experts, the dissemination of information and the provision of technical assistance are among the methods that the Agency adopts to carry out its functions. With the rapid expansion in the use of nuclear power, much of the Agency's program is devoted to this field as well as to the use to which isotopes may be put in agriculture and medicine. An important aspect of the IAEA activities that is becoming of increasing significance relates to the development and application of safeguard measures to ensure that nuclear materials supplied for peaceful purposes are not diverted to military uses.

International Law Commission.—By Article 13(1) of the Charter of the United Nations, one of the purposes of the UN General Assembly is to encourage the progressive development of international law and its codification. In order to implement and to assist in this function, the International Law Commission was created by a General Assembly resolution dated Nov. 21, 1947. It is composed of 25 members who are elected in their individual capacity. They serve for terms of five years and, in general, represent the main forms of civilization and principal legal systems of the world. On Nov. 28, 1961, Canada's Under-Secretary of State for External Affairs was elected to membership of this Commission. The 25 countries whose nationals form, at present, the International Law Commission are: Afghanistan, Algeria, Argentina, Austria, Brazil, Britain, Canada, China, Ecuador, Finland, France, India, Iraq, Israel, Italy, Japan, Nigeria, Poland, Senegal, Spain, the Union of Soviet Socialist Republics, the United Arab Republic, the United States of America, Uruguay and Yugoslavia.

Subsection 4.—Canada and the North Atlantic Treaty Organization

Two Ministerial meetings were held during 1966 and meetings of the Permanent Representatives to the North Atlantic Council were held continuously throughout the year at NATO Headquarters in Paris.

The annual spring meeting was held in Brussels, June 7 and 8, attended by the Foreign Ministers of the NATO Alliance. The Canadian delegation was led by the Secretary of State for External Affairs. Although the discussions covered a wide range of problems, the attention of Ministers was concentrated on issues directly relating to the French

decision, while remaining within the Alliance, to withdraw from the integrated military structure. Ministers decided, in the interest of assuring continued security, to reach as soon as possible solutions acceptable to all concerned. Ministers further agreed to transfer the military headquarters from France and extended a unanimous invitation to the Benelux countries to provide new sites for SHAPE and AFCENT and to Italy to provide a new site for the NATO Defence College.

In reviewing the international situation, Ministers discussed the relations of their countries with the Soviet Union and the East European countries. They concluded that, although it was imperative for the West to maintain adequate forces for deterrence and defence, the peaceful ending of the division of Europe remained a principal purpose of the Alliance. Attention was given during the discussions to Greek-Turkish relations and Ministers welcomed the announcement by Ministers of Greece and Turkey that they were entering into contact on the Cyprus question and on Greek-Turkish relations.

The annual Ministerial meeting held in Paris on Dec. 15 and 16 was attended by a delegation led by the Secretary of State for External Affairs and the Minister of National Defence. There were two dominant themes of political discussion on which there was general agreement. First, there was the recognized need to improve East-West relations and, secondly, the acceptance of the desirability of studying the future of the Alliance. The Council had before it a study of East-West relations which had already revealed that there was a substantial measure of agreement within NATO on this subject. At the opening of the meeting, the Belgian Foreign Minister submitted a resolution proposing a study of the future tasks of the Alliance in the light of developments since 1949. This proposal recalled the Canadian proposal of 1964, which was not pursued at that time for fear it might precipitate a confrontation with France. In the minds of most delegations, the proposal to study the future tasks of the Alliance was closely related to, and tended to merge with, the Council's interest in improving East-West relations. For this reason, Ministers decided to leave to the study on the future of the Alliance consideration of the possibility of developing new proposals for moving forward in the field of improving East-West relations.

An important decision of the December meeting, which reflected the recognized need to engage members as fully as possible in the nuclear affairs of the Alliance, was the establishment of a Nuclear Defence Affairs Committee and a subordinate Nuclear Planning Group. Membership in the Nuclear Defence Affairs Committee is open to all members of NATO who wish to participate. Agreement was reached on a membership of seven in the Nuclear Planning Group (which includes Canada) who were to serve 18 months. Canada supported this decision, which will broaden participation in the formulation of Alliance nuclear defence policy and may open the way to a non-proliferation agreement.

Canadian Contributions to NATO.—Support for NATO during 1966 continued to be one of the foundations of Canadian foreign policy. As its contribution to the military strength of the Alliance, Canada maintains an army brigade and an air division in Europe and supporting forces in Canada, including two battalions assigned to the Allied Command Europe Mobile Force. It has assigned a substantial naval force to the Supreme Allied Commander Atlantic (SACLANT) for the defence of the Canada-United States region in case of emergency and participates with the United States in the defence of the North American Continent through the North American Air Defence Command (NORAD).

Since 1950, Canada has contributed approximately \$1,860,000,000 in mutual aid to European members of NATO. The aid program, consisting of contributions to NATO infrastructure and military costs, transfers of equipment to member countries and aircrew training in Canada of NATO forces, continued in 1966. This program has decreased in magnitude with the changing conditions and the increasing ability of the European members to meet their individual defence requirements.

Subsection 5.—Canada and the United States

Canada's relations with the United States are of vital importance both to Canadian growth and development and to Canada's position in the international community. History and geography have made the two countries neighbours and the demographic realities and economic patterns of today are cementing the friendship that characterizes the relations between them. Co-operation on bilateral matters and on the international front have marked this unique relationship in the past and experience has demonstrated a willingness on both sides of the common border to maintain and foster the spirit of sympathetic understanding to which the countries have become accustomed in their dealings with each other.

Both countries are active members of the UN and its many specialized agencies and both participate actively in NATO, GATT, OECD and other important international organizations. There are also many bilateral bodies that facilitate Canada-United States co-operation. The Ministerial Committee on Trade and Economic Affairs annually brings together members of the Cabinet in both countries for extensive discussions on a wide range of problems of bilateral and international interest. The Permanent Joint Board on Defence and the International Joint Commission are forums for the discussion of North American defence and problems related to boundary waters, respectively. In addition, many joint committees and agencies deal with specialized subjects. But perhaps the most important factor in reinforcing the traditional friendship of the two countries is the continual intermingling of their peoples as private individuals, which is permitted by the free flow across the shared border.

Subsection 6.—Canada and Latin America

Canada has formal diplomatic relations with all 20 Latin American Republics and maintains 14 resident diplomatic missions in the area. Canada's relations with these countries have increased appreciably during the past few years in every field.

Canada is a member of three Inter-American organizations linked with the Organization of American States—the Pan-American Institute of Geography and History, the Inter-American Statistical Institute and the Inter-American Radio Office. Since 1931, Canada has been a member of the Postal Union of the Americas and Spain, which, although not an OAS organization, is closely related to that body. Canada joined the United Nations Economic Commission for Latin America in 1961.

Canada has also been officially represented at a growing number of meetings and conferences concerned with Latin American and Inter-American affairs. For some years Canadian observer groups have attended the annual ministerial meetings of the Inter-American Economic and Social Council, one of the organs of the OAS. During the past two years, Canada has been represented in an observer capacity at three high-level OAS meetings. In addition to attendance at meetings of some of the bodies mentioned in the preceding paragraph, Canada has recently been represented at the conference of Ministers of Education and Economic Planning of Latin America in Buenos Aires, at a meeting of the Centre for Latin American Monetary Studies in the same capital, at the Seventh Meeting of the Inter-American Development Bank in Mexico, the Inter-American Conference of the Ministers of Labour in Caracas, the Annual Meeting of the Inter-American Tropical Tuna Commission in Guayaquil, Ecuador, and at the Seminar on Tax Administration in Washington. In addition, Canada acted as host for the American Regional Conference of the International Labour Organization, held in Ottawa in September 1966. A Canadian expert represented Canada unofficially at the Inter-American meeting of Copyright Experts in Rio de Janeiro.

In December 1964, the Canadian Government signed an agreement with the Inter-American Development Bank under which Canada agreed to make available \$10,000,000 (Cdn.) in development loan funds for use in financing development projects in Latin America. This initial commitment has been followed in each of the two succeeding years by additional commitments of an equal amount, bringing the total Canadian development

loan funds made available to Latin America to a level of \$30,000,000 (Cdn.). As at Mar. 31, 1967, nine Canadian development loans totalling \$16,856,000 (Cdn.) have now been approved for financing of development projects in Latin America.

Although the volume of Canadian trade with Latin America is still a small part of total Canadian trade, it has more than trebled since the end of the Second World War. Venezuela, Cuba, Mexico and Argentina rank among the top 25 Canadian export markets. The Canadian Government has directly facilitated Canadian exports to Latin America and indirectly assisted Latin American economic development through the provision of long-term credits under the Export Credits Insurance Act; these credits total more than \$138,000,000 (Cdn.).

Subsection 7.—Canada and Europe, the Middle East, Africa and the Far East

Canada and Europe.—Canada's relations with Europe spring from the common cultural heritage that this country shares with Britain and France and also reflect its traditional links with other European countries from which Canada's population derives. These relations have been strengthened by Canada's substantial participation, on European soil, in the two World Wars. Canada's relations with Western Europe have since steadily developed under the impulse of major Canadian political, economic, defence and other interests in the area. Canada maintains close and extensive bilateral relations with Britain and France in particular, as well as with most other Western European countries, and has resident diplomatic missions in almost all of them. Traditionally, Britain and to a lesser extent several Western European countries have been among Canada's major partners in external trade and have been its chief source of immigrants. In the multilateral field, Canada is today, with a number of Western European countries, an active member of NATO and the OECD, and also of wider international associations such as GATT. Through its NATO membership in particular, Canada expresses its interest in the security of Western Europe and in any European settlement that may eventually emerge from the political détente there. As a result of its growing prosperity, stability and dynamism and of its progress toward some form of integration, Western Europe is able to play an increasingly significant role in the Western World and toward the under-developed countries. Accordingly, Western Europe tends to assume greater importance for Canada, not only for reasons of history and sentiment, but for the influence it wields, for the possibility of fruitful co-operation it offers in many fields and for the element of balance it can provide to Canada's external relations.

Largely as a result of large-scale sales of Canadian wheat and flour to the U.S.S.R. and the countries of Eastern Europe, Canada's relations with that area have received a marked impulse toward normalization since 1963. This has also been encouraged by the general relaxation of international tensions in Europe over the same period. As a result, the volume of trade and tourism, as well as of official and semi-official visitors in both directions, has greatly increased and agreements on many outstanding issues involving such matters as Canadian claims against a number of Eastern European countries have been settled or are the subject of negotiation. Contacts between Canada and the U.S.S.R. have been facilitated by improvement of communication through the establishment of direct shipping and airline services and by the extension of diplomatic relations from Canada's existing resident missions in Moscow, Prague, Warsaw and Belgrade to cover Hungary, Romania and Bulgaria through non-resident Ambassadors.

Canada and the Middle East.—Canada has participated actively in UN efforts to promote calm and stability and to alleviate want in the Middle East, which has been a focus of tension and conflict since the end of the Second World War. Canadian officers continue to serve with the United Nations Truce Supervision Organization located along Israel's borders with neighbouring Arab States. Canada was closely associated with the formation of the United Nations Emergency Force, and Canadian troops served with

UNEF in Gaza and Sinai from its inception until its withdrawal in May 1967. Canada also took part in the United Nations Yemen Observation Mission which was terminated in September 1964.

Another form of Canadian co-operation in UN activities in the Middle East is the United Nations Relief and Works Agency for Palestine Refugees (UNRWA); Canada has traditionally been one of the leading contributors to that agency since its inception. Following the conflict of June 1967, the Canadian Government supplemented its contribution by providing substantial amounts in emergency food aid and other forms of assistance to the agency and also contributed generously to the International Red Cross for the provision of emergency supplies to relieve human suffering in the Middle East.

Canada and Africa.—The rapid expansion of Canadian diplomatic relations with African countries in recent years reflects the growing Canadian interest in that area and in the problems of its political and economic development. Canada now has diplomatic missions in 11 African countries and the heads of missions are dually accredited to a number of other countries. Canada has particular links with Commonwealth African countries and with French-speaking African states (see also p. 173). Financial and technical assistance is given to these countries through the Special Commonwealth Africa Assistance Plan, a review of which is given on pp. 185-186. Canadian assistance to French-speaking states in Africa is dealt with on pp. 186-187.

Canada and the Far East.—Canada has had important contacts, both official and private, with the Far East over many years and is becoming more and more aware of its position as a Pacific as well as an Atlantic nation. With the development of modern transportation and communications, the Pacific Ocean has ceased to be a barrier and, as a result, contacts between Canadians and the peoples of the Far East are increasing rapidly in number and variety. Many of these contacts are based on a growing volume of trans-Pacific trade. Japan, in particular, is Canada's third largest trading partner; total bilateral trade amounted to over \$650,000,000 in 1966. Canadian Cabinet Ministers hold annual meetings with their Japanese counterparts to discuss matters of mutual interest.

Although Canada does not maintain diplomatic relations with Communist China, it has continued its policy of developing trade and other contacts with Peking on the premise that it should not be isolated but rather encouraged to become more involved in the activities and responsibilities of the international community. In line with this policy, during the 1966 debate on China in the United Nations General Assembly, Canada proposed that representatives of both the Chinese Nationalist Government and the Government in Peking be seated in the Assembly and that the latter participate in the work of the Security Council as a permanent member.

As a member of the International Commissions in Viet-Nam, Laos and Cambodia, Canada has maintained a close interest in the region formerly known as Indo-China. Canadian policy, both within the Commissions and in a broader international context, has been based on a recognition of the needs of the countries of the region for political and economic stability. The course of events in Viet-Nam in recent years has cut across these objectives. In these circumstances the overriding concern of Canadian policy has been to work toward a solution of the present conflict through negotiation rather than by military means. Canada has spared no efforts to this end.

Canada's relations with other countries of the Far East are becoming of increasing importance. As illustrations, a trade agreement was signed with Korea in December 1966, and the establishment of a resident Canadian Embassy in Thailand was announced in April 1967. In the form of economic and technical aid extended through United Nations agencies and the Colombo Plan, Canada is contributing in many ways to the economic development of the Far East. Canada is also a member of the recently established Asian Development Bank to whose capital fund it has contributed \$25,000,000.

Subsection 8.—Organization for Economic Co-operation and Development

The Organization for Economic Co-operation and Development (OECD) was established in September 1961 as successor to the OEEC, with Canada and the United States joining the countries of Western Europe as full members of the new body. Japan, previously a member of the Development Assistance Committee, became, in May 1964, a full member of the OECD and the first member from outside Western Europe or North America. Its headquarters are in Paris.

The prime purpose of the OECD is to promote among member governments co-operation in the fields of economic policy, trade and assistance to developing countries, although it also provides a valuable forum for discussion of common problems in agriculture, industry, finance, technology and manpower policy. At the first Ministerial Council in 1961, member countries approved a growth target of 50 p.c. for the decade to 1970; at the half-way mark in 1966, this goal had been considerably exceeded. Because of its development from the former OEEC, the Organization was at first concerned largely with questions of primarily European interest but, as its membership expanded, it has become increasingly a recognized forum for broader consultation among advanced industrial countries, particularly on questions of economic and financial policy and on the problems of the developing countries. In this latter regard, the OECD now constitutes the main forum for consultations among developed countries concerning the work of the United Nations Conference on Trade and Development (UNCTAD) Trade and Development Board and its committees.

The OECD brings together government officials as well as representatives of private business, labour unions, universities and other non-governmental bodies in both deliberative and consultative capacities, and provides for international liaison among such groups. Within Canada, liaison has been established with the business community through the Canadian Business and Industry Advisory Committee, which was established in 1962 and comprises representatives of the Canadian Chamber of Commerce, the Canadian Council of the International Chamber of Commerce and the Canadian Manufacturers' Association. Parallel arrangements exist for consultation with Canadian labour organizations.

Subsection 9.—Canadian External Aid Programs

The Colombo Plan.—The Colombo Plan for Co-operative Economic Development in South and Southeast Asia was conceived at the Commonwealth Meeting of Foreign Ministers held at Colombo, Ceylon, in January 1950. Although the Plan was initiated by Commonwealth governments, it is not exclusively a Commonwealth Program. It is designed to assist in the economic development and the raising of living standards of all countries and territories in the general area of South and Southeast Asia. Its membership includes Cambodia, Canada, Ceylon, India, Indonesia, Iran, Japan, Korea, Laos, Malaysia, Maldives Islands, Nepal, New Zealand, Pakistan, the Philippines, Singapore, Thailand, Viet-Nam and the United States; the latter is also engaged in a substantial program of economic aid in the same region. Iran and Singapore were admitted to membership in 1966.

The Colombo Plan is supervised by a Consultative Committee composed of Ministers of the member countries, who meet once a year to review projects and exchange views on policy matters. As a consultative body, it makes no collective policy decisions binding member countries; a Council for Technical Co-operation, on which Canada is represented, meets regularly in Ceylon to develop the technical co-operation program of the Plan. Consultative Committee meetings were held in Karachi in 1952, New Delhi in 1953, Ottawa in 1954, Singapore in 1955, Wellington in 1956, Saigon in 1957, Seattle in 1958, Jogjakarta in 1959, Tokyo in 1960, Kuala Lumpur in 1961, Melbourne in 1962, Bangkok in 1963, London in 1964 and Karachi in 1966. At the Jogjakarta meeting it was agreed to extend the Colombo Plan for another five years from June 1961, and it was similarly extended for a further five years at the London meeting in 1964. Reports of the Committee on progress and future plans are published after each annual meeting; each report also contains sections describing the activities of member countries.

From the inception of the Plan in 1950 through March 1967, Canada made available a total of \$800,000,000 in aid for capital and technical assistance projects in South and Southeast Asia. Although nine countries are now receiving capital assistance from Canada, the largest contributions have so far been made to Ceylon, India, Malaysia and Pakistan. The Canadian contribution consists primarily of direct assistance to various development projects, including equipment for multi-purpose irrigation and hydro-electric projects, power-generating plants, construction and fisheries projects and resources surveys, hospital equipment and cobalt therapy units, as well as educational and laboratory equipment and books. It has also included gifts of raw materials, commodities and foodstuffs, such as industrial metals, asbestos, fertilizer, wheat, wheat flour and butter, from the internal sale of which recipient governments have been able to raise funds to meet local costs of economic development projects.

Under the Technical Assistance Program, up to December 1966, more than 8,000 persons from all countries in the area had come to Canada for training in a variety of fields, the major ones being public administration and finance, agriculture, co-operatives, engineering, mining and geology, statistics, health education and social welfare. More than 600 Canadian experts had been sent abroad for service in Colombo Plan countries in such fields as fisheries, agriculture, engineering, mining and prospecting, co-operatives, public administration, education and vocational training, and public health. Other Canadians were employed on aerial resources-survey teams and on the installation and operation of capital equipment.

Commonwealth Caribbean Program.—In 1958, when the Federation of the West Indies was being formed, Canada undertook a five-year \$10,000,000 program of economic and technical assistance. Following the dissolution of the Federation in 1962, it was decided to continue providing assistance to its component territories—Jamaica, Trinidad and Tobago, Barbados, British Guiana (Guyana), British Honduras and the Leeward and Windward Islands—and, since then, \$44,800,000 in loans and grants have been made available to the area, including \$13,500,000 under the 1966-67 program.

Under this program, the area and its territories have been provided with two passenger-cargo ships for inter-island transportation, a deep-water wharf at St. Vincent, a residence for the University of the West Indies in Trinidad, port-handling equipment for five harbours and, for several of the smaller islands, schools, warehouses and freshwater supply facilities. Projects under way include an aerial survey of Trinidad, a scheme for the expansion and improvement of Trinidad's dairy herds, the provision of rural schools, teacherages and a sewerage system in Jamaica, a prefabricated fish-packing plant in Guyana, and a bridge in British Honduras.

A substantial amount of technical assistance has also been given. During the year ended Mar. 31, 1967, training programs were arranged in Canada for over 500 students from the Commonwealth Caribbean, the fields of study including agriculture, engineering, fisheries, forestry, medicine and public administration. In addition, 138 Canadians served in the Commonwealth Caribbean, including teachers, soil surveyors, and advisers in the fields of statistics, legal drafting, housing, films, radio broadcasting, postal services, Indian affairs, technical education and harbour management.

Special Commonwealth Africa Assistance Plan.—In the autumn of 1960 the Canadian Government undertook, subject to Parliamentary approval, to contribute \$10,500,000 to a Special Commonwealth Africa Assistance Plan (SCAAP) over a three-year period beginning Apr. 1, 1961. This program arose from discussions at the Meeting of Commonwealth Prime Ministers in 1960. Although entirely a Commonwealth scheme, SCAAP is essentially the counterpart in Africa of the Colombo Plan in Asia. The main donor countries are Britain, Canada, Australia and New Zealand. Some of the newer Commonwealth members, particularly India and Pakistan, have been able to provide

limited amounts of technical assistance in fields in which they have experience and specialized knowledge. All Commonwealth countries and dependent territories in Africa qualify for development assistance under the SCAAP program.

As occurred in other areas of Canada's expanding aid program, the level of grant aid to SCAAP increased in 1966-67 to \$12,500,000 from \$9,500,000 in the previous fiscal year and development loans assistance to \$6,000,000 from \$5,000,000. In 1965, the first Canadian development loan in Africa was extended to Nigeria in the amount of \$3,500,000 and, early in 1966, two loans totalling \$2,450,000 were granted to Tanzania. A \$2,000,000 food-aid grant in the form of wheat flour was made to Ghana.

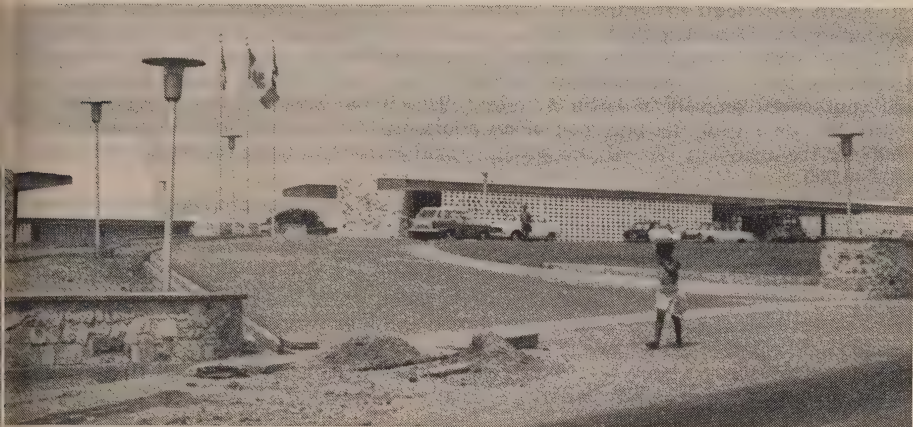
Technical assistance programs continued to receive major emphasis. During 1966-67, over 400 Canadian teachers, professors and technical experts were on assignment in Africa while 645 African students received academic and technical training in Canada. This represented a sharp increase in the program of technical assistance from the previous year.

Canadian capital assistance has concentrated on projects assigned a high priority by the recipient country and in which Canada has a high degree of expertise. These included aerial mapping and survey work, forest inventories, pulp and paper survey and forest products development, irrigation and land reclamation, medical training and wheat research, geological surveys and mineral exploration, and the provision of equipment for schools and national parks. A major joint Canadian-Ghanaian effort was the building, equipping and staffing of the Trades Training Centre at Accra at an estimated Canadian cost of \$1,155,000.

The Commonwealth Scholarship and Fellowship Plan.—The proposal to establish a Commonwealth Scholarship and Fellowship Plan was made at the Trade and Economic Conference held at Montreal in September 1958. The Conference envisaged a scheme of 1,000 university scholarships, of which Britain undertook to provide one half and Canada one quarter. The details of the proposed scheme were worked out at the Commonwealth Education Conference at Oxford in 1959. This Plan was designed to enrich the intellectual life of each country of the Commonwealth by enabling an increased number of its brighter students to share in the wide range of educational resources available throughout the Commonwealth and thus promote the equality of educational opportunity at the highest level. During the academic year 1966-67, there were 250 Commonwealth scholars in Canada; since the Plan first became operational during 1960-61, a total of 667 scholars have come to Canada for advanced study.

In 1965, Research and Visiting Fellowships were introduced as part of the Canadian contribution to this Plan. In 1966-67, three Research Fellowships were awarded for a full academic year and six Visiting Fellowships for shorter periods. These Fellowships enable senior educationists from other Commonwealth countries to visit Canadian universities and other educational institutions to carry out investigations, study or research in their particular fields.

Assistance to French-Speaking States in Africa.—In April 1961 the Canadian Government announced an offer of assistance in the educational field to the French-speaking states in Africa and subsequently appropriated \$300,000 for this purpose for each of the years ended Mar. 31, 1962, 1963 and 1965. It was decided at the commencement of this program that emphasis should be placed on the provision of Canadian teachers for Africa. For the year ended Mar. 31, 1967, aid was increased and an allocation of \$8,100,000 was provided to allow for development of a capital assistance program as well as expansion of technical assistance. During that year, 217 teachers and university professors served in French-speaking Africa and 160 students received training in Canada. Preliminary surveys for bridge construction and hydro-electric development were carried out; an agriculture education survey of six countries was begun; arrangements were made to supply



**A Practical
Demonstration
of International
Friendship**



Canadian, Ghanaian and school flags fly outside the Accra Technical Training Centre. The Government of Saskatchewan and the Canadian Government joined with Ghana to bring this school into operation. From it will emerge hundreds of young, eager Ghanaians trained in the essential skills and sciences of the modern world who will soon have a large part in ensuring the future welfare of their nation. All the instructors are from Saskatchewan but it is intended that they be replaced gradually by Ghanaians.

heavy equipment to assist the Republic of Guinea in its roads improvement program; a series of educational films was offered to Cameroon, Central African Republic, Chad, Congo, Dahomey, Morocco, Niger, Togo and Upper Volta; and a contribution of \$500,000 was made to the UN Congo (Kinshasa) Civilian Fund.

In the 1966-67 fiscal year the allocation totalled \$8,100,000—\$6,100,000 in grant funds and \$2,000,000 in development loans. Technical and capital assistance was given to the University of Rwanda; paper for the production of educational literature was supplied to Cameroon, Congo (Leopoldville) and Guinea; film vans and films were made available to Guinea and Gabon; arrangements were made to participate in a livestock improvement program in Cameroon, and food aid, in the form of wheat flour and milk powder, was given to Algeria, Morocco and Senegal to relieve shortages caused by serious droughts.

Latin American Program.—A bilateral Canadian aid program for Latin America was initiated in December 1964, when the Canadian Government concluded an agreement with the Inter-American Development Bank (IADB) by which Canada allocated \$10,000,000 in 'soft' development loan funds for use in high-priority economic, technical and educational projects in Latin America. This initial allocation was augmented in September 1965 with the provision of an additional \$10,000,000 in development loan funds for the area. In 1966-67 this amount was increased to bring the fund total up to \$30,000,000.

Under terms of the agreement, the IADB selects and processes proposed loan projects before submitting those considered suitable to the Canadian Government for its approval. By Mar. 31, 1967, nine Canadian development loans totalling \$16,856,000 had been made available. They included the Port Authority of Acajutla, one of the main Pacific seacoast ports of the Central American Republic of El Salvador, which was granted an interest-free development loan of \$3,240,000 for the expansion and improvement of port facilities, and Canadian development loan funds of up to \$1,260,000 were made available to the Republic of Ecuador to finance a resources survey of 13,000 sq. miles of agricultural and forest land in that country's Guayas River Valley.

Co-operation with the United Nations and its Specialized Agencies, and with other International Aid Programs.—In addition to the annual contributions made to the United Nations Development Program, which encompasses all United Nations programs of technical assistance, Canada arranges training programs in this country for individuals studying under the auspices of the different specialized agencies. This service is also extended to the technical assistance program of the International Co-operation Administration of the United States as well as to other international aid organizations. Up to Mar. 31, 1967, 2,151 individuals had come to Canada through the various agencies from more than 100 countries in all parts of the world. Assistance is also given by recruiting Canadians for service with the specialized agencies on specific technical assistance assignments in under-developed countries.

External Aid Office.—As at Nov. 9, 1960, the operation and administration of Canada's external assistance programs became the responsibility of the External Aid Office, established by Order in Council, placing it in charge of a Director General.

As mentioned under the separate programs above, additional funds were made available for grant assistance in 1966-67. Canada also introduced a development loan program for which \$50,000,000 was authorized in 1965 by Parliament on a non-lapsing basis. The present fiscal period being reported upon is the third consecutive year in which this amount of money has been appropriated for development loan purposes. The terms of the loans are comparable with those of the International Development Association—up to 50 years maturity, non-interest-bearing, and a ten-year grace period. In 1965, the service charge previously in effect (0.75 p.c.) was dropped.

In 1965, Parliament approved the establishment of a separate food aid program under which the External Aid Office is able to purchase food products to meet part of the Canadian contributions to the FAO World Food Program and to meet the needs of countries requesting this form of Canadian assistance.

In 1967, Canada's contribution to the world's food needs increased to \$100,500,000, from \$35,000,000 allocated the year before. It included a special allocation of \$21,500,000 over the amount originally budgeted, in response to an appeal to the Canadian Government in November 1966 by the Prime Minister of India, for urgently required Canadian wheat. Altogether, the significant increase in Canada's food aid program was considered necessary because of continuing distress in India, Pakistan, Algeria, Morocco and Senegal due to crop failures, as well as continuing Canadian commitments to UN specialized agencies.

CHAPTER III.—POPULATION

CONSPECTUS

	PAGE		PAGE
SECTION 1. CENSUS OF POPULATION.....	189	Subsection 7. Ethnic Groups and Birth-places.....	208
Subsection 1. Growth and Movement of Population.....	189	Subsection 8. Religious Denominations....	209
Subsection 2. Density of Population.....	192	Subsection 9. Languages and Mother Tongues.....	210
Subsection 3. Urban and Rural Population.	194	Subsection 10. Households and Families...	211
Subsection 4. Populations of Incorporated Cities, Towns and Villages and of Metropolitan Areas.....	195	SECTION 2. INTERCENSAL SURVEYS.....	211
Subsection 5. Sex and Age Distribution....	204	SECTION 3. THE NATIVE PEOPLES OF CANADA	213
Subsection 6. Marital Status.....	207	SECTION 4. STATISTICS OF WORLD POPULATION.....	221

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Section 1.—Census of Population

This Section presents in brief form the results of the limited census of population taken on June 1, 1966, with certain comparable data from earlier censuses. The 1966 Census did not include questions on ethnic origin, birthplace, religious denomination, language or mother tongue so that the 1961 data in Subsections 7 to 9 will remain the latest available until the taking of the comprehensive decennial census in 1971. Also, 1966 Census figures on households and families intended to be included in Subsection 10 were not available when this Chapter was prepared and will, if possible, appear in an Appendix to this volume.

Detailed census data are published in a series of reports which are obtainable from the Queen's Printer or the Dominion Bureau of Statistics. A list of these publications is available on request from the Information Division of the Dominion Bureau of Statistics.

Subsection 1.—Growth and Movement of Population*

Canada's population stood at 20,015,000 in 1966 as against 10,377,000 in 1931 and 5,371,000 in 1901. In the first decade of the century, when the West was being opened up for settlement, the gain of 34 p.c. was greater than in any other censal period. During that decade, about 1,760,000 immigrants entered the country and natural increase amounted to an estimated 1,000,000. However, since the total increase in population was 1,835,328, it is evident that a substantial number of people left the country during the period. In

* An outline of the growth of population in Canada since the beginning of the seventeenth century may be found in Vol. I of the 1931 Census. Other accounts of population growth prior to the present century are included in Vol. I of the 1941 Census and Vol. X of the 1951 Census.

the 1911-21 decade, population growth dropped to 22 p.c. Military losses in the First World War and losses during the influenza epidemic, which together amounted to about 120,000, were factors in this decline. Although the flow of immigrants was reduced during the war years, it had been very heavy immediately preceding the War, so that the total number for the period (1,612,000) was very close to that for the previous censal period. At the same time, emigration was again extremely high and the increase in population amounted to 1,581,306, being an average of 2 p.c. a year compared with 3 p.c. in the 1901-11 period.

In the decade 1921-31, the rate of increase dropped to 18 p.c. Immigration fell to 1,200,000 and emigration was estimated at 1,000,000. Thus the increase in population, which amounted to 1,588,837, was only 229,000 greater than the natural increase. A feature of this period was the rapid growth of population in Western Canada, partly the result of immigration and partly the result of an influx of people from Eastern Canada. During 1931-41, the population increase was just under 11 p.c. During the depressed conditions of the 1930s, marriage and birth rates were significantly lower and only 150,000 immigrants came to Canada, although, in addition, 75,000 Canadians returned from the United States. Emigration was also much lower than in the previous decades, amounting to an estimated 250,000. Natural increase was only 1,220,000, the crude birth rate falling from 27 per thousand of the population in the 1921-25 period to 24 per thousand in the succeeding five-year period and to 20 per thousand during much of the 1931-41 decade. During 1941-51, population growth was restored to pre-depression levels. Excluding Newfoundland which became part of Canada in 1949, it amounted to 19 p.c.; including Newfoundland it was 22 p.c. Much of the increase took place in the second half of the decade, reflecting heavy postwar immigration and sharp increases in the marriage and birth rates.

In the 1951-61 period, the population growth rate at 30 p.c. came close to approaching the extremely high rate of the first decade of the century. However, the two periods contrast in many ways. In the early period there was a wider dispersal of population increases as whole regions across the Continent were opened up; in the recent period there was a concentration of growth in urban communities although some spreading of population into newly developed northern areas took place. Natural increase accounted for about 75 p.c. of the growth. Although there was some decline in the death rate, the trend of natural increase reflected very closely that of the crude birth rate which began to rise during the War and remained high throughout the period. Net immigration accounted for the remainder of the increase; during the decade, 1,542,853 immigrants entered the country, more than double the estimated emigration. All provinces gained in population during 1951-61 but their rates of increase varied widely. The greatest increases resulted from a combination of natural increase and net migration which in the two large provinces of Central Canada and the two most westerly provinces accounted for over 87 p.c. of the total actual increase. In contrast, increases in the other six provinces were entirely accounted for by natural increase.

In the 1961-66 period, the growth rate dropped to 9.7 p.c., reflecting lower birth rates and immigration in this interval relative to the high levels of these components in the 1950s. Natural increase accounted for 1,520,000 or 85 p.c. of the 1,800,000 five-year gain—a drop from the 1,675,000 attributable to this factor in the 1956-61 period. Also, the 1961-66 net immigration gain of approximately 250,000 was only half of that recorded in the previous five-year period. Most of the 1961-66 population increase occurred in the larger urban agglomerations of Central Canada with the Provinces of Quebec and Ontario together accounting for 70 p.c. of the 1,800,000 national numerical gain. British Columbia and Alberta were responsible for 21 p.c. between them, the residual 9 p.c. occurring in the remaining six provinces and territories.

1.—Numerical Distribution of Population by Province, and Percentage Change from Preceding Census, Census Years 1921-66

NOTE.—Populations for the decennial census years 1871 to 1911 are given in the 1956 Year Book, p. 149. The populations of the Prairie Provinces in 1906, 1916, 1926, 1936 and 1946 will be found in the 1951 edition, p. 131.

Province or Territory	1921	1931	1941	1951	1956	1961	1966
NUMERICAL DISTRIBUTION							
Nfld.....	1	1	1	361,416	415,074	457,853	493,396
P.E.I.....	88,615	88,038	95,047	98,429	99,285	104,629	108,535
N.S.....	523,837	512,846	577,962	642,584	694,717	737,007	756,039
N.B.....	387,876	408,219	457,401	515,697	554,616	597,936	616,788
Que.....	2,360,510	2,874,662	3,331,882	4,055,681	4,628,378	5,259,211	5,780,845
Ont.....	2,933,662	3,431,683	3,787,655	4,597,542	5,404,933	6,236,092	6,960,870
Man.....	610,118	700,139	729,744	776,541	850,040	921,686	963,066
Sask.....	757,510	921,785	895,992	831,728	880,665	925,181	955,344
Alta.....	588,454	731,605	796,169	939,501	1,123,116	1,331,944	1,463,203
B.C.....	524,582	694,263	817,861	1,165,210	1,398,464	1,629,082	1,873,674
Y.T.....	4,157	4,230	4,914	9,096	12,190	14,628	14,382
N.W.T.....	8,143	9,316	12,028	16,004	19,313	22,998	28,738
Canada.....	8,787,949 ²	10,376,786	11,506,655	14,009,429	16,080,791	18,238,247	20,014,880
PERCENTAGE CHANGE FROM PRECEDING CENSUS							
Nfld.....	1	1	1	1	14.8	10.3	7.8
P.E.I.....	-5.5	-0.7	8.0	3.6	0.9	5.4	3.7
N.S.....	6.4	-2.1	12.7	11.2	8.1	6.1	2.6
N.B.....	10.2	5.2	12.0	12.7	7.5	7.8	3.2
Que.....	17.7	21.8	15.9	21.7	14.1	13.6	9.9
Ont.....	16.1	17.0	10.4	21.4	17.6	15.4	11.6
Man.....	32.2	14.8	4.2	6.4	9.5	8.4	4.5
Sask.....	53.8	21.7	-2.8	-7.2	5.9	5.1	3.3
Alta.....	57.2	24.3	8.8	18.0	19.5	18.6	9.9
B.C.....	33.7	32.3	17.8	42.5	20.0	16.5	15.0
Y.T.....	-51.2	1.8	16.2	85.1	34.0	20.0	-1.7
N.W.T.....	25.1	14.4	29.1	33.1	20.7	19.1	25.0
Canada.....	21.9	18.1	10.9	21.8	14.8	13.4	9.7

¹ Populations of Newfoundland (not part of Canada until 1949) were: 1921, 263,033; 1931, 281,500 (estimated); 1941, 303,300 (estimated); and 1945, 321,819. ² Includes 485 members of the Royal Canadian Navy recorded separately in 1921.

2.—Factors in the Growth of Population, 1961-66

Province or Territory	Population 1961 Census	Births	Deaths	Natural Increase	Immi- gration	Actual Increase	Net Migration	Population 1966 Census
	No.	No.	No.	No.	No.	No.	No.	No.
Nfld.....	457,853	75,251	15,674	59,577	2,256	35,543	-24,034	493,396
P.E.I.....	104,629	13,577	6,071	8,506	466	3,906	-4,600	108,535
N.S.....	737,007	91,138	31,612	59,526	6,241	19,032	-40,494	756,039
N.B.....	597,936	76,943	23,714	53,229	4,460	18,852	-34,377	616,788
Que.....	5,259,211	646,621	188,904	457,717	122,897	521,634	+63,917	5,780,845
Ont.....	6,236,092	752,511	264,659	487,852	287,054	724,778	+236,926	6,960,870
Man.....	921,686	108,858	38,518	70,340	15,433	41,380	-28,960	963,066
Sask.....	925,181	112,249	36,558	75,691	8,988	30,163	-45,528	955,344
Alta.....	1,331,944	181,753	47,146	134,607	29,394	131,259	-3,348	1,463,203
B.C.....	1,629,082	181,467	77,364	104,103	60,822	244,592	+140,489	1,873,674
Y.T. and N.W.T..	37,626	8,394	1,649	6,745	544	5,494	-1,251	43,120
Canada.....	18,238,247	2,248,762	730,869	1,517,893	538,555	1,776,633	+258,740	20,014,880

Table 3 shows the natural increase and the total population increase for Canada and the provinces in the periods 1941-51, 1951-61 and 1961-66. The balance between the total increase in population and the natural increase during a period represents the

difference between inward and outward movements, i.e., net migration. The net migration data shown for the provinces indicate the net movement of population arising partly from interchange of population between provinces and partly from persons entering and leaving the country.

3.—Numerical Changes in the Population of the Provinces through Natural Increase and Migration 1941-51, 1951-61 and 1961-66

Province	Natural Increase			Population Increase according to Census			Net Migration		
	1941-51	1951-61	1961-66	1941-51	1951-61	1961-66	1941-51	1951-61	1961-66
Nfld.....	...	110,996	59,577	...	96,437	35,543	...	-14,559	-24,034
P.E.I.....	15,802	17,621	8,506	3,382	6,200	3,906	-12,420	-11,421	-4,600
N.S.....	103,512	128,293	59,526	64,622	94,423	19,032	-38,890	-33,870	-40,494
N.B.....	99,904	119,461	53,229	58,296	82,239	18,852	-41,608	-37,222	-34,377
Que.....	736,058	998,300	457,717	723,799	1,203,530	521,634	-12,259	+205,230	+63,917
Ont.....	505,034	953,493	487,852	809,887	1,638,550	724,778	+304,853	+685,057	+236,926
Man.....	107,510	149,690	70,340	46,797	145,145	41,380	-60,713	-4,545	-23,960
Sask.....	135,106	172,324	75,691	-64,264	93,453	30,163	-199,370	-78,871	-45,528
Alta.....	150,303	265,195	134,607	143,332	392,443	131,259	-6,971	+127,248	-3,348
B.C.....	116,527	223,791	104,103	347,349	463,872	244,592	+230,822	+240,081	+140,489
Canada 1...	1,972,394	3,148,198	1,517,893	2,141,353	4,228,818	1,776,633	+168,964	+1,080,620	+258,740

¹ Includes the Yukon and Northwest Territories.

The earlier movement of population in Canada from east to west has not been apparent since the 1920s. Although British Columbia has continued to show population gains from migration since 1931, much of the gain has been at the expense of the Prairie Provinces. The three Prairie Provinces lost by migration about 267,000 persons between 1941 and 1951, gained slightly at the rate of 4,400 annually in the 1951-61 period but then lost an average of 15,500 annually in the period 1961-66. Manitoba lost almost 61,000 people between 1941 and 1951, only 4,500 in the next ten-year period, but nearly 29,000 in the five-year period 1961-66. Saskatchewan has been a consistent loser since 1941, losing on the average almost 20,000 a year during the 1940s, nearly 8,000 a year during the 1950s and 9,000 a year during the 1961-66 period. Alberta lost only about 7,000 in the decade 1941-51, gained close to 13,000 a year during the 1950s, but lost slightly during the 1961-66 period at the rate of about 670 a year. British Columbia gained through migration at the rate of about 23,000 a year during the 1940s, 24,000 a year during the 1950s, and about 28,000 a year during the first half of the 1960s. Although Ontario's gain through migration in the past quarter-century has been twice that of British Columbia on an absolute basis, in relation to its larger population the gain was only about half as important. Most of Ontario's growth through migration was from immigration rather than interprovincial movement of population. Quebec had a slight loss in 1941-51, a substantial gain during the 1950s and a continued, although lesser, gain in the 1961-66 period, due also to immigration. The Maritimes as a whole lost almost 255,000 persons over the quarter-century.

Subsection 2.—Density of Population

Table 4 shows the density of population in the different provinces and territories of Canada in the census years 1951, 1956, 1961 and 1966. Omitting the Yukon and Northwest Territories where population density is exceedingly low, there were 9.50 persons per square mile in Canada as a whole in 1966 compared with 8.66 in 1961 and 6.65 in 1951. The greatest increase in the latest five years was shown by Ontario where there were 2.11 more persons per square mile, followed by Prince Edward Island where there was an increase of 1.79. However, it should be remembered that the population within the provinces is very unevenly distributed; all provinces with the exception of the Maritimes

have large areas almost devoid of population and concentration in other areas is very high. The density of each county and census division in 1966 is given in DBS Census Report 1.1 (Catalogue No. 92-601), and Table 5 gives density in the city proper and in the fringe area of each of the five largest metropolitan areas in 1966 compared with 1961 and 1956.

4.—Land Area and Density of Population, by Province, Census Years 1951, 1956, 1961 and 1966

Province or Territory	Land Area	Population 1951		Population 1956		Population 1961		Population 1966	
		Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile
	sq. miles	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland (incl. Labrador)	143,045	361,416	2.53	415,074	2.90	457,853	3.20	493,396	3.45
Prince Edward Island.....	2,184	98,429	45.07	99,285	45.46	104,629	47.91	108,535	49.70
Nova Scotia.....	20,402	642,584	31.50	694,717	34.05	737,007	36.12	756,039	37.06
New Brunswick...	27,835	515,697	18.53	554,616	19.93	597,936	21.48	616,788	22.16
Quebec.....	523,860	4,055,681	7.74	4,628,378	8.84	5,250,211	10.04	5,780,845	11.04
Ontario.....	344,092	4,597,542	13.36	5,404,933	15.71	6,236,092	18.12	6,960,870	20.23
Manitoba.....	211,775	776,541	3.67	850,040	4.01	921,686	4.35	963,066	4.55
Saskatchewan.....	220,182	831,728	3.78	880,665	4.00	925,181	4.20	955,344	4.34
Alberta.....	248,800	939,501	3.78	1,123,116	4.51	1,331,944	5.35	1,463,203	5.88
British Columbia.	359,279	1,165,210	3.24	1,398,464	3.89	1,629,082	4.53	1,873,674	5.22
Canada (Exclusive of the Territories)...	2,101,454	13,984,329	6.65	16,049,288	7.64	18,200,621	8.66	19,971,760	9.50
Yukon Territory.	205,346	9,096	0.04	12,190	0.06	14,628	0.07	14,382	0.07
Northwest Territories.....	1,253,438	16,004	0.01	19,313	0.02	22,998	0.02	28,738	0.02
Canada.....	3,560,238	14,009,429	3.93	16,080,791	4.52	18,238,247	5.12	20,014,880	5.62

5.—Land Area and Density of Population in Canada's Five Largest Metropolitan Areas, Census Years 1956, 1961 and 1966

Metropolitan Area ¹	Land Area ²	1956		1961		1966	
		Population	Density per Sq. Mile	Population	Density per Sq. Mile	Population	Density per Sq. Mile
	sq. miles	No.	No.	No.	No.	No.	No.
Montreal—							
City proper.....	57.94	1,109,439	19,148	1,191,062	20,557	1,222,255	21,095
Fringe area.....	457.80	636,461	1,390	919,617	2,009	1,214,562	2,653
Toronto—							
City proper.....	34.96	667,706	19,099	672,407	19,234	664,584	19,010
Fringe area.....	773.29	834,582	1,079	1,152,182	1,490	1,493,912	1,932
Vancouver—							
City proper.....	43.33	365,844	8,443	384,522	8,874	410,375	9,471
Fringe area.....	465.19	299,173	643	405,643	872	481,911	1,036
Winnipeg—							
City proper.....	30.20	255,093	8,447	265,429	8,789	257,005	8,510
Fringe area.....	239.54	157,439	657	211,114	881	251,754	1,051
Ottawa—							
City proper.....	45.44	222,129	4,888	268,206	5,902	290,741	6,398
Fringe area.....	289.78	123,340	426	161,555	555	203,794	703

¹ Area as of 1966.

² Revised 1966 land area used for density figures for all years.

Subsection 3.—Urban and Rural Population

For the 1961 and 1966 Censuses, all cities, towns and villages of 1,000 or more population, whether incorporated or not, were classed as urban; also classed as urban were the urbanized fringes of census metropolitan and other large urban areas, and the urbanized fringes of certain smaller cities where the city and fringe totalled 10,000 or more persons. The remainder of the population was classed as rural with a further subdivision according to farm and non-farm residence. A farm for census purposes is defined as an agricultural holding of one or more acres with sales of agricultural products of \$50 or more in the previous year. All persons living on such holdings in rural areas are classed as "rural farm" regardless of their occupation. Thus, the population living on "farms" would include some persons not connected with farming operations but who derive their income from non-agricultural pursuits. Conversely, it would exclude farm operators and their families who do not live on their holdings (e.g., in a neighbouring town or village).

Table 6 classifies the 1961 and 1966 rural populations according to non-farm and farm residence and the urban populations by size groups; in the latter classification, each municipality (or part) in an urbanized area is allocated to the same size group as the total urbanized area of which it forms a part. The figures show that, in 1966, almost 74 p.c. of Canada's population were urban dwellers and 54 p.c. lived in or on the fringes of urban centres having a population of 30,000 or more. Only about 10 p.c. lived on farms.

6.—Rural Population classified as Farm and Non-farm, and Urban Population classified by Size Group, by Province, Censuses 1961 and 1966

Province or Territory	Urban					Rural		
	1,000 to 9,999	10,000 to 29,999	30,000 to 99,999	100,000 or Over	Total	Non- farm	Farm	Total
1961	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	98,614	48,214	85,192	—	232,020	216,756	9,077	225,833
Prince Edward Island.....	15,591	18,318	—	—	33,909	36,206	34,514	70,720
Nova Scotia.....	75,163	49,065	—	276,284	400,512	279,663	56,832	336,495
New Brunswick.....	80,287	61,815	135,911	—	278,013	257,658	62,265	319,923
Quebec.....	606,355	277,549	384,628	2,637,872	3,906,404	787,981	564,826	1,352,807
Ontario.....	631,870	297,834	934,870	2,958,955	4,823,529	906,864	505,699	1,412,563
Manitoba.....	71,995	51,100	—	465,712	588,807	161,407	171,472	332,879
Saskatchewan.....	109,076	48,142	128,732	112,141	398,091	222,418	304,672	527,090
Alberta.....	158,319	44,096	35,454	605,342	843,211	202,910	285,823	488,733
British Columbia.....	161,256	152,978	—	867,691	1,181,925	369,617	77,540	447,157
Yukon Territory.....	5,031	—	—	—	5,031	9,550	47	9,597
Northwest Territories.....	8,938	—	—	—	8,938	14,042	18	14,060
Canada.....	2,022,495	1,049,111	1,704,787	7,923,997	12,700,390	3,465,072	2,072,785	5,537,857
1966								
Newfoundland.....	146,937	27,116	92,636	—	266,689	218,252	8,455	226,707
Prince Edward Island.....	3,754	35,993	—	—	39,747	37,947	30,841	68,788
Nova Scotia.....	94,080	50,953	—	293,874	438,907	271,881	45,251	317,132
New Brunswick.....	82,169	54,351	175,705	—	312,225	253,069	51,504	304,563
Quebec.....	641,956	303,239	527,410	3,052,509	4,525,114	762,164	493,567	1,255,731
Ontario.....	699,643	297,806	919,866	3,676,125	5,593,440	885,735	481,695	1,367,430
Manitoba.....	93,123	52,667	—	500,258	646,048	157,146	159,872	317,018
Saskatchewan.....	118,227	69,664	33,417	247,019	468,327	207,375	279,642	487,017
Alberta.....	195,690	63,162	37,186	711,369	1,007,407	178,198	277,598	455,796
British Columbia.....	222,322	200,021	—	988,150	1,410,493	377,984	85,197	463,181
Yukon Territory.....	6,828	—	—	—	6,828	7,492	62	7,554
Northwest Territories.....	11,534	—	—	—	11,534	17,174	30	17,204
Canada.....	2,316,263	1,154,972	1,786,220	9,469,304	14,726,759	3,374,407	1,913,714	5,288,121

Subsection 4.—Populations of Incorporated Cities, Towns and Villages and of Metropolitan Areas

The population of all incorporated cities, towns and villages is classified by size group in Table 7 for the census years 1951, 1956, 1961 and 1966. During the 1961-66 period, the number of such centres increased by 57 and the proportion of the total population living in them rose from 60.7 p.c. to 63.1 p.c.

The trend toward an increased concentration of the population in the larger urban centres continued in the 1961-66 period. In the five-year interval, the number of incorporated cities and towns of 50,000 or over rose from 29 to 40 and the proportion of the total population in these larger centres increased from 29.0 p.c. to 32.9 p.c. In contrast, although urban centres of 1,000 to 50,000 in size also increased in number from 893 to 921, the proportion of the population residing in these centres fell from 29.3 p.c. in 1961 to 27.9 p.c. in 1966. Similarly, the number of incorporated towns and villages under 1,000 rose from 1,039 to 1,057 in the 1961-66 period but their proportion of the population fell slightly from 2.4 p.c. to 2.2 p.c.

7.—Populations of Incorporated Cities, Towns and Villages classified by Size Group, Census Years 1951, 1956, 1961 and 1966

Size Group	1951			1956		
	Incor- porated Centres	Popu- lation	P.C. of Total Popu- lation	Incor- porated Centres	Popu- lation	P.C. of Total Popu- lation
	No.	No.		No.	No.	
Over 500,000.....	2	1,697,274	12.1	2	1,777,145	11.1
Between—						
400,000 and 500,000.....	—	—	—	—	—	—
300,000 and 400,000.....	1	344,833	2.5	1	365,844	2.3
200,000 and 300,000.....	3	646,076	4.6	4	942,849	5.9
100,000 and 200,000.....	4	572,756	4.1	4	576,156	3.6
50,000 and 100,000.....	9	588,436	4.2	12	769,323	4.8
25,000 and 50,000.....	24	802,380	5.7	27	929,624	5.8
15,000 and 25,000.....	34	636,713	4.5	43	853,341	5.3
10,000 and 15,000.....	29	347,410	2.5	44	527,802	3.3
5,000 and 10,000.....	100	720,077	5.1	117	830,289	5.2
3,000 and 5,000.....	119	457,492	3.3	130	497,818	3.1
1,000 and 3,000.....	409	698,092	5.0	450	772,013	4.8
Under 1,000.....	1,049	429,683	3.1	1,039	443,922	2.8
Totals.....	1,783	7,941,222	56.7	1,873	9,286,126	57.7
	1961			1966		
	Incor- porated Centres	Popu- lation	P.C. of Total Popu- lation	Incor- porated Centres	Popu- lation	P.C. of Total Popu- lation
	No.	No.		No.	No.	
Over 500,000.....	2	1,863,469	10.2	2	1,886,839	9.4
Between—						
400,000 and 500,000.....	—	—	—	1	410,375	2.1
300,000 and 400,000.....	1	384,522	2.1	2	707,500	3.5
200,000 and 300,000.....	5	1,338,294	7.3	3	845,867	4.2
100,000 and 200,000.....	4	568,056	3.1	6	997,051	5.0
50,000 and 100,000.....	17	1,134,214	6.2	26	1,740,446	8.7
25,000 and 50,000.....	41	1,431,909	7.9	43	1,438,388	7.2
15,000 and 25,000.....	43	862,101	4.7	52	1,019,205	5.1
10,000 and 15,000.....	61	743,474	4.1	65	781,611	3.9
5,000 and 10,000.....	132	932,936	5.1	125	898,136	4.5
3,000 and 5,000.....	151	579,201	3.2	165	637,117	3.2
1,000 and 3,000.....	465	793,465	4.4	471	818,003	4.1
Under 1,000.....	1,039	437,207	2.4	1,057	445,246	2.2
Totals.....	1,961	11,068,848	60.7	2,018	12,625,784	63.1

The Canadian cities and towns having a population of over 50,000 in 1966 are listed in Table 8. Included also are the years of their incorporation as cities or towns and comparative population figures for 1951, 1956, 1961 and 1966 which are given according to the boundaries in those respective years.

8.—Incorporated Cities and Towns with Populations of Over 50,000 at the 1966 Census, with Comparable Population Figures for 1951, 1956, 1961 and 1966

NOTE.—The asterisk (*) indicates a boundary change since the preceding census. Population totals are based on areas as incorporated at each of these dates.

City or Town and Province	Year of Incorporation	1951	1956	1961	1966
		No.	No.	No.	No.
Brantford, Ont.	1877	36,727	51,869*	55,201*	59,854*
Burlington, Ont.	1915	6,017	9,127*	47,008*	65,941*
Calgary, Alta.	1893	129,060	181,780*	249,641*	330,575*
Dartmouth, N.S.	1961	15,037	21,093	46,966*	58,745
Edmonton, Alta.	1904	159,631	226,002*	281,027*	376,925*
Guelph, Ont.	1879	27,386	33,860*	39,838*	51,377*
Halifax, N.S.	1841	85,589	93,301	92,511	86,792
Hamilton, Ont.	1846	208,321	239,625*	273,991*	298,121*
Hull, Que.	1875	43,483	49,243*	56,929*	60,176*
Jacques-Cartier, Que.	1951	22,450	33,132	40,807*	52,527
Kingston, Ont.	1846	33,459	48,618*	53,526	59,004
Kitchener, Ont.	1912	44,867	59,562*	74,485*	93,255*
Laval (Ville de), Que. ¹	1965	37,843	69,410	124,741	196,083
London, Ont.	1855	95,343	101,693*	169,569*	194,416
Montreal, Que.	1832	1,021,520	1,109,439*	1,191,062*	1,222,255*
Montreal N., Que.	1959	14,081	25,407	48,433	67,806
Niagara Falls, Ont.	1903	22,874	23,563	22,351	56,891*
Oakville, Ont.	1857	6,910	9,983	10,366	52,793*
Oshawa, Ont.	1924	41,545	50,412	62,415	78,082
Ottawa, Ont.	1855	202,045	222,129	268,206	290,741
Peterborough, Ont.	1905	38,272	42,698*	47,185*	56,177*
Quebec, Que.	1832	164,016	170,703	171,979	166,984
Regina, Sask.	1903	71,319	89,755*	112,141*	131,127*
Saint John, N.B.	1785	50,779	52,491	55,153	51,567
St. Catharines, Ont.	1876	37,984	39,708*	84,472*	97,101
St. John's, Nfld.	1888	52,873	57,078	63,633	79,884*
St. Laurent, Que.	1955	20,426	38,291*	49,805*	59,479*
St. Michel, Que.	1952	10,539	24,706	55,978	71,448*
Sarnia, Ont.	1914	34,697	43,447	50,976	54,552
Saskatoon, Sask.	1906	53,268	72,858*	95,526*	115,892*
Sault Ste. Marie, Ont.	1912	32,452	37,329	43,088*	74,594
Sherbrooke, Que.	1875	50,543	58,668*	66,554	75,690
Sudbury, Ont.	1930	42,410	46,482	80,120*	84,888*
Toronto, Ont.	1834	675,754	667,706*	672,407	664,584
Trois-Rivières, Que.	1857	46,074	50,483*	53,477*	57,540*
Vancouver, B.C.	1886	344,833	365,844*	384,522	410,375
Verdun, Que.	1912	77,391	78,262*	78,317	76,832
Victoria, B.C.	1862	51,331	54,584	54,941	57,453
Windsor, Ont.	1892	120,049	121,980	114,367*	192,544*
Winnipeg, Man.	1873	235,710	255,093*	265,429*	257,005*

¹ All the municipalities on Île-Jésus were amalgamated to form the city of Ville de Laval in 1965.

Census metropolitan areas have been established for groups of urban communities that are in close economic, geographic and social relationship. Table 9 shows the 1966 population of each area with the corresponding 1956 and 1961 figures for the same area as in 1966. As indicated by the last column, most of these metropolitan areas have shown remarkable increases in population since 1961. In 1966 they accounted for 48.1 p.c. of the total population as compared with 45.9 p.c. in 1961 and 43.3 p.c. in 1956.

9.—Populations of Census Metropolitan Areas, Census Years 1956, 1961 and 1966

Metropolitan Area ¹	1956	1961	1966	P.C. Increase 1961-1966
	No.	No.	No.	
Calgary, Alta.....	201,022	279,062	330,575	18.5
Edmonton, Alta.....	254,800	337,568	401,299	18.9
Halifax, N.S.....	164,200	183,946	198,193	7.7
Hamilton, Ont.....	338,294	395,189	449,116	13.6
Kitchener, Ont.....	128,722	154,864	192,275	24.2
London, Ont.....	154,453	181,283	207,366	14.4
Montreal, Que.....	1,745,900	2,110,679	2,436,817	15.5
Ottawa, Ont.....	345,469	429,761	464,535	15.1
Quebec, Que.....	311,604	357,568	413,397	15.6
Regina, Sask.....	89,881	112,176	131,127	16.9
Saint John, N.B.....	86,015	65,563	101,192	5.9
St. John's, Nfld.....	76,733	91,654	101,161	10.4
Saskatoon, Sask.....	73,015	95,564	115,862	21.3
Sudbury, Ont.....	97,945	110,799	117,075	5.7
Toronto, Ont.....	1,502,288	1,824,589	2,158,466	18.3
Vancouver, B.C.....	665,017	790,165	892,286	12.9
Victoria, B.C.....	133,829	154,152	173,455	12.5
Windsor, Ont.....	185,865	193,365	211,697	9.5
Winnipeg, Man.....	412,532	476,543	508,759	6.8

¹ Area as of 1966.

The 1961 incorporated urban centres in Canada having a population of 1,000 or more at the time of the 1966 Census are listed alphabetically by province in Table 10 and their populations given for the two census years 1961 and 1966. Each population figure is for the boundary in effect at the time of the respective census.

10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over, by Province, Census Years 1961 and 1966

NOTE.—Population tables are based on areas as incorporated at each of these dates; a change in municipal boundary since the preceding census is indicated by an asterisk (*). Urban centres are designated in this table by the following abbreviations: c.=city, t.=town and v.=village.

Province and Incorporated Centre	Population		Province and Incorporated Centre	Population	
	1961 Census	1966 Census		1961 Census	1966 Census
	No.	No.		No.	No.
Newfoundland—			Newfoundland—concluded		
Badger, t.....	1	1,192	Lewisporte, t.....	2,702	2,892
Baie Verte, t.....	958	2,144*	Marystown, t.....	1,691	1,894
Bay Roberts, t.....	1,328	3,455*	Mount Pearl, t.....	2,785	4,428
Bishop's Falls, t.....	1	4,127	Placentia, t.....	1,610	1,847
Bonavista, t.....	1	4,192	Ramea, t.....	970	1,160
Botwood, t.....	3,680	4,277*	Roddickton, t.....	1	1,227
Burgeo, t.....	1,454	1,682	St. Alban's, t.....	1	1,715
Burin, t.....	1,144	1,167	St. Anthony, t.....	1,820	2,269
Carbonear, t.....	4,234	4,584	St. George's, t.....	1	2,046
Catalina, t.....	1,110	1,089	St. John's, c.....	63,633	79,884*
Channel-Port aux Basques, t.....	4,141	5,692*	St. Lawrence, t.....	2,095	2,130
Clareville, t.....	1,541	1,813*	Springdale, t.....	1	2,773
Corner Brook, c.....	25,185	27,116	Stephenville, t.....	6,043	5,910
Deer Lake, t.....	3,998	4,289	Stephenville Crossing, t.....	2,209	2,433*
Dunville, t.....	1	1,622	Twillingate, t.....	1	1,374
Fogo, t.....	1,152	1,150	Upper Island Cove, t.....	1	1,790
Fortune, t.....	1,360	1,703	Wabana, t.....	8,026	7,884
Freshwater, t.....	1,396	1,310	Wesleyville, t.....	1,285	1,238*
Gander, t.....	5,725	7,183	Windsor, t.....	5,505	6,692
Glenwood, t.....	1	1,000			
Glovertown, t.....	1,197	1,246			
Grand Bank, t.....	2,703	3,143	Prince Edward Island—		
Grand Falls, t.....	1	7,451	Charlottetown, c.....	18,318	18,427*
Happy Valley, t.....	1	4,215	Kensington, t.....	884	1,022
Harbour Breton, t.....	1,076	1,442	Montague, t.....	1,126	1,289
Harbour Grace, t.....	2,650	2,811	Parkdale, v.....	1,735	2,071
Hare Bay, t.....	1	1,410	St. Eleanors, v.....	1,002	1,419

¹ Incorporated after June 1, 1961.

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over,
by Province, Census Years 1961 and 1966—continued**

Province and Incorporated Centre	Population		Province and Incorporated Centre	Population	
	1961 Census	1966 Census		1961 Census	1966 Census
	No.	No.		No.	No.
Prince Edward Island—			New Brunswick—concluded		
concluded			St. Leonard, t.	1,666	1,635
Sherwood, v.	1,580	2,407	St. Stephen, t.	3,380	3,285
Souris, t.	1,537	1,443	Sackville, t.	3,038	3,186
Summerside, t.	8,611	10,042*	Shediac, t.	2,159	2,134
			Shippegan, t.	1,631	1,741
Nova Scotia—			Sussex, t.	3,457	3,607*
Amherst, t.	10,788	10,551	Tracadie, t.	1	2,018
Antigonish, t.	4,344	4,856	Woodstock, t.	4,305	4,442
Berwick, t.	1,282	1,311			
Bridgetown, t.	1,043	1,060	Quebec—		
Bridgewater, t.	4,497	4,755	Acton Vale, t.	3,957	4,489
Canso, t.	1,151	1,190	Alma, c.	13,309	22,195*
Clark's Harbour, t.	945	1,002	Amos, t.	6,080	6,838
Dartmouth, c.	46,966	58,745	Amqui, t.	3,659	3,554
Digby, t.	2,303	2,305	Anjou, t.	9,511	22,477
Dominion, t.	2,999	2,960	Arthabaska, t.	2,977	3,907
Glace Bay, t.	24,186	23,516	Arvida, c.	14,460	15,342*
Halifax, c.	92,511	86,792	Asbestos, t.	11,083	10,534
Hantsport, t.	1,381	1,438	Aylmer, t.	6,286	7,231
Inverness, t.	2,109	2,022	Bagotville, t.	5,629	5,876
Kentville, t.	4,612	5,176	Baie Comeau, t.	7,956	12,236
Liverpool, t.	3,712	3,607	Baie de Shawinigan, v.	1,085	1,002
Lockeport, t.	1,231	1,284	Baie d'Urifé, t.	3,549	4,061
Louisbourg, t.	1,417	1,617	Baie St. Paul, t.	4,674	4,702
Lunenburg, t.	3,056	3,154	Barrante, v.	1,199	1,318
Mahone Bay, t.	1,103	1,296	Beaconsfield, c.	10,064	15,702
Midleton, t.	1,921	1,765	Beauceville, t.	1,645	1,905
Mulgrave, t.	1,145	1,124	Beauceville E., t.	1,920	2,222*
New Glasgow, t.	9,782	10,489	Beauharnois, c.	8,704	8,810
New Waterford, t.	10,592	9,725	Beauport, c.	9,192	11,742*
North Sydney, t.	8,657	8,752	Beaupré, t.	2,587	2,926*
Oxford, t.	1,471	1,426	Bécancour, t.	320	8,336*
Parishboro, t.	1,834	1,835	Bedford, t.	2,855	2,926*
Pictou, t.	4,534	4,254	Beebe Plain, v.	1,363	1,346
Port Hawkesbury, t.	1,346	1,866	Bélar, t.	1	3,408
Shelburne, t.	2,408	2,654	Beloeil, t.	6,283	10,152*
Springhill, t.	5,836	5,380*	Bernierville, v.	2,706	2,477
Stellarton, t.	5,327	5,191	Berthierville, t.	3,708	3,943*
Sydney, c.	33,617	32,767	Bic, v.	1,177	1,198
Sydney Mines, t.	9,122	9,171	Black Lake, t.	4,180	4,186
Trenton, t.	3,140	3,229*	Bois des Filion, v.	2,499	3,219
Truro, t.	12,421	13,007	Boucherville, t.	7,403	15,338*
Westville, t.	4,159	4,147	Bourlamaque, t.	3,344	4,122
Windsor, t.	3,823	3,765	Bromptonville, t.	2,726	2,826
Wolfville, t.	2,413	2,533	Brossard, t.	3,778	11,884*
Yarmouth, t.	8,636	8,319	Brownsburg, v.	3,617	3,596
			Buckingham, t.	7,421	7,227*
			Cabano, t.	2,695	2,528
New Brunswick—			Cadillac, t.	1,077	1,370
Bathurst, c.	5,494	15,256*	Campbell's Bay, v.	1,024	1,084
Campbellton, c.	9,873	10,175	Candiac, t.	1,050	3,178*
Caraquet, t.	7,109	3,047	Cap Chat, v.	2,035	2,026
Chatham, t.	5,856	8,136	Cap de la Madeleine, c.	26,925	29,433
Dalhousie, t.	4,032	6,107	Carignan, t.	1	2,975
Dieppe, t.	12,791	12,517	Causapscal, t.	3,463	3,210
Edmundston, c.	19,683	22,460	Chambly, c.	3,737	10,798*
Fredericton, c.	3,983	4,153	Chamford, v.	1,188	1,142
Grand Falls, t.	1,025	1,034	Chandler, t.	3,406	3,608
Hartland, t.	13,848	15,836	Chapais, t.	2,363	2,459
Lancaster, c.	3,233	3,572	Charlemagne, v.	3,068	3,569
Marysville, t.	1,892	1,952	Charlesbourg, c.	14,308	24,926*
Moncton, c.	43,840	45,847	Charny, t.	4,189	4,762
Newcastle, t.	5,236	5,911	Châteauguay, t.	7,570	12,460*
Oromocto, t.	12,170	14,112	Châteauguay Centre, t.	7,591	14,096
St. Andrews, t.	1,531	1,719	Châteauguay Heights, t.	1,231	1,238*
St. George, t.	1,133	1,104	Chibouganau, t.	4,765	8,902
Saint John, c.	55,153	51,567	Chicoutimi, c.	31,657	32,526*
			Chicoutimi N., c.	11,229	12,814

* Incorporated after June 1 1961.

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over,
by Province, Census Years 1961 and 1966—continued**

Province and Incorporated Centre	Population		Province and Incorporated Centre	Population	
	1961 Census	1966 Census		1961 Census	1966 Census
	No.	No.		No.	No.
Quebec—continued			Quebec—continued		
Chute aux Outardes, v.....	1,336	1,921	Lafontaine, v.....	1,556	2,346*
Clermont, v.....	3,114	3,175	La Guadeloupe, v.....	1,728	1,877
Coaticook, t.....	6,906	6,984*	La Malbaie, t.....	2,580	4,307*
Como E., v.....	807	1,025	L'Annonciation, v.....	1,042	2,040*
Contrecoeur, v.....	2,007	2,301	La Pêrade, v.....	1,184	1,117
Cookshire, t.....	1,412	1,599	La Pocatière, t.....	3,086	3,470
Côte St. Luc, c.....	13,266	20,546	La Prairie, t.....	7,328	8,122
Courville, t.....	4,670	5,724	La Providence, v.....	4,251	4,712
Cowansville, t.....	7,050	10,692*	LaSalle, c.....	30,904	48,322
Crabtree, v.....	1,313	1,509	La Sarre, t.....	3,944	4,798
Danville, t.....	2,562	2,578	L'Assomption, t.....	4,448	4,662
Delson, t.....	2,075	2,601	La Tuque, t.....	13,023	13,554
Desbiens, t.....	1,970	1,979	Laurentides, t.....	1,698	1,653
Deschailons sur St.			Laizon, c.....	11,533	12,877
Laurent, v.....	1,283	1,265	Laval (Ville de), c. ²	124,741	196,088
Deschambault, v.....	1,056	1,040	Lavaltrie, v.....	1,034	1,189
Deschênes, v.....	2,090	1,791	LeMoynes, t.....	8,057	8,888
Deux Montagnes, c.....	7,274	8,069*	Legnoxville, t.....	3,699	3,977
Disraeli, v.....	3,079	3,111	L'Épiphanie, v.....	2,663	2,664
Dolbeau, t.....	6,052	6,630	Léry, t.....	1,957	2,130
Dollard des Ormeaux, t.....	1,248	12,297	Les Saules, t.....	4,098	6,242*
Donnacois, t.....	4,812	4,815	Lévis, c.....	15,112	15,627*
Dorion, t.....	4,996	6,033*	L'Isletville, v.....	1,184	1,234
Dorval, c.....	18,592	20,905	L'Isle Verte, v.....	1,517	1,484
Drummondville, c.....	27,909	29,216	Longueuil, c.....	24,131	25,593
Drummondville S., t.....	1	8,725	Loretteville, c.....	6,522	9,465*
Drummondville W., v.....	2,057	2,682	Lorraine, t.....	197	1,627*
Duburger, t.....	4,707	8,489*	Louiseville, t.....	4,138	4,236*
East Angus, t.....	4,756	4,909	Luceville, v.....	1,419	1,564*
East Broughton			Macamic, t.....	1,614	1,770
Station, v.....	1,136	1,093	Magog, t.....	13,139	13,797
Farnham, c.....	6,354	6,752	Malartic, t.....	6,998	6,606
Ferme Neuve, v.....	1,971	1,944	Maniwaki, t.....	6,349	6,404
Forestville, t.....	1,529	1,572	Maple Grove, t.....	1,412	1,600
Fort Coulonge, v.....	1,823	1,846	Marieville, t.....	3,809	4,368*
Franceour, v.....	968	1,060*	Masson, v.....	1,933	2,249
Gagnon, t.....	1,900	3,999	Matagami, t.....	1	2,244
Gaspé, t.....	2,603	2,938	Matane, t.....	9,190	11,109*
Gatineau, t.....	13,022	17,727*	McMasterville, v.....	2,075	2,456
Giffard, c.....	10,129	12,585	Melocheville, v.....	1,666	1,667
Gracefield, v.....	670	1,054*	Mistassini, t.....	3,461	3,884*
Granby, c.....	31,463	34,349*	Montebello, v.....	1,486	1,350
Grande Rivière, v.....	1,176	1,216	Mont Joli, t.....	6,178	6,366
Grand Mère, c.....	15,806	16,407	Mont Laurier, t.....	5,859	6,140
Greenfield Park, t.....	7,807	12,288*	Mont St. Hilaire, t.....	2,911	4,807*
Grenville, v.....	1,330	1,501	Montmagny, c.....	6,850	12,241*
Hampstead, t.....	4,557	6,158	Montmorency, t.....	5,985	5,541
Hanterive, t.....	5,980	11,366	Montreal (Ville de), c.....	1,191,062	1,222,255*
Hébertville Station, v.....	1,257	1,179	Montreal E., t.....	5,884	5,779
Hudson, v.....	1,671	1,642	Montreal N., c.....	48,433	67,806
Hudson Heights, v.....	1,540	1,543	Montreal W., t.....	6,446	6,612
Hull, c.....	56,929	60,176*	Mount Royal, t.....	21,182	21,845
Huntingdon, t.....	3,134	3,167	Murdochville, v.....	2,951	3,028
Iberville, t.....	7,588	8,400	Napierville, t.....	1,812	2,010*
Île Perrot, t.....	3,106	3,578	Nazareth, v.....	1	1,965
Jacques-Cartier, c.....	40,807	52,527	Neufchâtel, t.....	1	6,618
Joliette, c.....	18,083	19,188*	Nicolet, t.....	4,441	4,707
Jonquière, c.....	28,588	29,663	Noranda, c.....	11,477	11,521
Kénogami, c.....	11,816	11,534*	Normandin, v.....	1,838	2,174
Knowlton, v.....	1,396	1,436	Notre Dame de Lorette, v.....	3,961	5,691
Labelle, v.....	1,224	1,307	Notre Dame d'Hébertville, v.....	1,604	1,493
Lac au Saumon, v.....	1,548	1,393	Notre Dame des Laurentides, t.....	1	4,446
Lac Etchemin, v.....	2,297	2,492*	Notre Dame du Lac, v.....	1,695	1,545
Lachine, c.....	38,630	43,155*	Omerville, v.....	1,094	1,131
Lachute, c.....	7,560	10,215*	Ormstown, v.....	1,527	1,479
Lac Mégantic t.....	7,015	6,958	Orsainville, t.....	4,236	7,068*
Lacolle, v.....	1,187	1,177	Outremont, c.....	30,753	30,881*
Laféche, c.....	10,984	13,433	Papineauville, v.....	1,300	1,410

¹ Incorporated after June 1, 1961.

² All the cities and towns on Île-Jésus were amalgamated to form the city of Ville de Laval in 1965.

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over,
by Province, Census Years 1961 and 1966—continued**

Province and Incorporated Centre	Population		Province and Incorporated Centre	Population	
	1961 Census	1966 Census		1961 Census	1966 Census
	No.	No.		No.	No.
Quebec—continued			Quebec—continued		
Pierrefonds, c.....	12,171	27,924*	St. Jacques, v.....	2,038	2,000
Pierreville, v.....	1,559	1,529	St. Jean, c.....	26,988	27,784*
Pincourt, t.....	2,685	5,656	St. Jean Chrysostome, t.....	1	1,633
Plessisville, t.....	6,570	7,238	St. Jean de Boischatel, v.....	1,576	1,648
Pointe au Pic, v.....	1,333	1,246	St. Jean Eudes, v.....	2,873	2,721
Pointe aux Trembles, c.....	21,926	29,888	St. Jérôme (Lac St. Jean Co.), v.....	1,962	2,089*
Pointe Calumet, v.....	514	1,157	St. Jérôme (Terrebonne Co.), c.....	24,546	26,511*
Pointe Claire, c.....	22,709	26,784	St. Joseph (St. Hyacinthe Co.), v.....	3,799	4,879*
Pointe Gatineau, t.....	8,854	11,053	St. Joseph de Beauce, t.....	2,484	2,805*
Pont Rouge, v.....	2,988	3,229	St. Joseph de la Rivière Bleue, v.....	1,540	1,406
Port Alfred, t.....	9,066	9,551*	St. Joseph de Sorel, t.....	3,588	3,725
Port Cartier, t.....	3,458	3,537	St. Jovite, v.....	2,692	3,083
Portneuf, t.....	1,380	1,388	St. Lambert, c.....	14,531	16,003
Préville, t.....	1,001	1,299	St. Laurent, c.....	49,805	59,479*
Price, v.....	3,094	2,939	St. Léonard, c.....	4,893	25,328*
Princeville, t.....	3,174	3,589*	St. Luc, t.....	1	3,581
Quebec, c.....	171,979	166,984	Ste. Madeleine, v.....	964	1,097
Rawdon, v.....	2,388	2,539	St. Marc des Carrières, v.....	2,622	2,681
Repenstigny, t.....	9,139	14,976	Ste. Marie, t.....	3,662	4,192
Richelieu, v.....	1,612	1,663	St. Michel, c.....	55,978	71,446*
Richmond, t.....	4,072	4,014	St. Nicolas, t.....	1	1,635
Rigaud, t.....	1,990	1,959	St. Pacôme, v.....	1,242	1,198
Rimouski, c.....	17,739	20,330*	St. Pamphile, t.....	1	3,516
Rimouski E., v.....	1,581	2,043	St. Pascal, v.....	2,144	2,216
Rivière du Loup, c.....	10,835	11,637	Ste. Philomène, t.....	1	3,234
Rivière du Moulin, t.....	4,386	4,542*	St. Pie, v.....	1,434	1,652
Robertsonville, v.....	1,156	1,226	St. Pierre, t.....	6,795	7,066
Roberval, c.....	7,739	8,552*	St. Raphaël, v.....	1,134	1,116
Rock Island, t.....	1,608	1,596	St. Raymond, t.....	3,931	4,318
Rosemère, t.....	6,158	6,429*	St. Rédempteur, v.....	1,035	1,287
Rouyn, c.....	18,716	18,581	St. Rémi, t.....	2,276	2,221
Roxboro, t.....	6,298	7,930*	St. Romuald d'Etchemin, c.....	1	7,375
St. Agapitville, v.....	1,117	1,347*	Ste. Rosalie, v.....	1,255	1,618*
St. Agathe des Monts, t.....	5,725	6,010	St. Sauveur des Monts, v.....	1,702	1,908
St. Ambroise, v.....	1,576	1,559	St. Siméon, v.....	1,197	1,145
St. André Avellin, v.....	1,066	1,002	Ste. Thècle, v.....	2,009	1,881
St. André E., v.....	1,183	1,201	Ste. Thérèse, c.....	11,771	15,628*
St. Anne de Beaupré, v.....	1,878	1,523	St. Timothée, v.....	1,003	1,252
St. Anne de Bellevue, t.....	4,044	5,334*	St. Tite, t.....	3,250	3,113
St. Anselme, v.....	1,131	1,237	St. Zacharie, v.....	1,361	1,349
St. Antoine des Laurentides, v.....	3,005	4,401*	Sacré Cœur de Jésus, v.....	1,108	1,305
St. Basile S., v.....	1,709	1,843	Sayabec, v.....	2,314	2,228
St. Boniface de Shawinigan, v.....	917	2,670*	Schefferville, t.....	3,178	3,086
St. Bruno, v.....	1,152	1,216	Scotstown, v.....	1,038	1,010
St. Bruno de Montarville, t.....	6,760	10,712	Senneterre, t.....	3,246	3,567*
St. Casimir, v.....	1,386	1,378	Senneville, v.....	1,262	1,413
St. Césaire, t.....	2,097	2,240*	Sept Îles, c.....	14,196	18,950
St. Chrysostome, v.....	972	1,048	Shawbridge, v.....	1,034	1,038
St. Cœur de Marie, v.....	1,302	1,312	Shawinigan, c.....	32,169	30,777
St. Croix, v.....	1,363	1,347	Shawinigan S., t.....	12,683	12,250
St. Cyrille, v.....	1,138	1,177	Shawville, v.....	1,534	1,652
St. Damase, v.....	879	1,072	Sherbrooke, c.....	66,554	75,690
St. David de l'Auberivière, t.....	1	2,962	Sillery, c.....	14,109	14,737
St. Émile, v.....	1,806	2,104	Sorel, c.....	17,147	19,021*
St. Eustache, t.....	5,463	7,319*	Stantstead Plain, v.....	1,116	1,183
St. Félixien, t.....	5,133	5,104*	Sutton, t.....	1,755	1,877
St. Félix de Valois, v.....	1,399	1,428	Tadoussac, v.....	1,083	1,059
Ste. Foy, c.....	29,716	48,298*	Temiscaming, t.....	2,517	2,799
St. Fulgence, v.....	1,004	1,053	Templeton, v.....	2,965	3,267
St. Gabriel de Brandon, v.....	3,425	3,464*	Terrebonne, t.....	6,207	7,480
St. Gédéon, v.....	930	1,030	Thetford Mines, c.....	21,618	21,614
Ste. Geneviève, t.....	2,397	2,596	Thurso, t.....	3,310	3,332
St. Georges (Beauce Co.), t.....	4,082	6,680*	Tracy, t.....	8,171	10,918
St. Georges (Champlain Co.), v.....	1,775	1,992	Tring Junction, v.....	1,214	1,297
St. Georges W., t.....	4,755	5,538	Trois Pistoles, t.....	4,349	4,710*
St. Germain de Grantham, v.....	1,015	1,138	Trois-Rivières, c.....	53,477	57,540*
St. Henri, v.....	782	1,106*	Trois-Rivières W., t.....	1	6,345
St. Hubert, t.....	14,380	17,215*	Valcourt, v.....	843	1,114
St. Hyacinthe, c.....	22,354	23,781*	Val David, v.....	1,118	1,281

* Incorporated after June 1, 1961.

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over,
by Province, Census Years 1961 and 1966—continued**

Province and Incorporated Centre	Population		Province and Incorporated Centre	Population	
	1961 Census	1966 Census		1961 Census	1966 Census
	No.	No.		No.	No.
Quebec—concluded			Ontario—continued		
Val d'Or, t.....	10,983	12,147	Cobourg, t.....	10,646	11,524*
Vallée Jonction, v.....	1,405	1,388	Cochran, t.....	4,521	4,775
Valleyfield (Salaberry de), c.....	27,297	29,111*	Colborne, v.....	1,336	1,450
Val St. Michel, t.....	1,290	1,204	Collingwood, t.....	8,385	8,471
Vanier, t.....	8,733	9,362	Coniston, t.....	2,692	2,692
Varennes, v.....	2,240	2,382	Copper Cliff, t.....	3,600	3,505
Vaudreuil, t.....	897	3,105*	Cornwall, c.....	43,639	45,766
Vaudreuil, v.....	1,768	1,918	Crystal Beach, v.....	1,886	1,857
Verdun, c.....	78,317	76,832	Deep River, t.....	5,377	5,573
Victoriaville, t.....	18,720	21,320*	Delhi, t.....	3,427	3,503*
Ville Marie, t.....	1,710	1,962	Deseronto, t.....	1,797	1,836
Villeneuve, t.....	1,934	2,829*	Dresden, t.....	2,346	2,372*
Warwick, t.....	2,487	2,577	Dryden, t.....	5,728	6,732
Waterloo, t.....	4,543	4,765	Dundas, t.....	12,912	15,501
Waterloo, v.....	1,330	1,422	Dunnville, t.....	5,181	5,402
Wooden Centre, v.....	1,426	1,385	Durham, t.....	2,180	2,410
Westmount, c.....	25,012	24,107	Eastview, c.....	24,555	24,269
Windsor, t.....	6,589	6,496	Eganville, v.....	1,549	1,478
Yamachiche, v.....	1,186	1,179	Elmira, t.....	3,337	4,047*
			Elmvale, v.....	957	1,031
Ontario—			Elora, v.....	1,486	1,644
Acton, t.....	4,144	4,416	Englehart, t.....	1,786	1,790
Ajax, t.....	7,755	9,412	Erin, v.....	1,005	1,195
Alexandria, t.....	2,597	2,864	Espanola, t.....	5,353	5,567
Alfred, v.....	1,195	1,225	Essex, t.....	3,428	3,742
Alliston, t.....	2,884	3,149	Exeter, t.....	3,047	3,226
Almonte, t.....	3,267	3,556	Fenelon Falls, v.....	1,359	1,404
Amherstburg, t.....	4,452	4,641	Fergus, t.....	3,831	4,376*
Arnprior, t.....	5,474	5,693	Fonthill, v.....	2,324	2,790
Arthur, v.....	1,200	1,242	Forest, t.....	2,188	2,151
Athens, v.....	1,015	1,002	Forest Hill, v.....	20,489	23,135
Aurora, t.....	8,791	10,425	Fort Erie, t.....	9,027	9,793
Aylmer, t.....	4,705	4,501	Fort Frances, t.....	9,481	9,524
Ayr, v.....	1,016	1,134	Fort William, c.....	45,214	48,208
Bancroft, v.....	2,615	2,152	Frankford, v.....	1,642	1,823
Barrie, c.....	21,169	24,016*	Galt, c.....	27,830	33,491*
Barry's Bay, v.....	1,439	1,388	Gananoque, t.....	5,096	5,237*
Beaconsfield, t.....	2,537	3,886*	Georgetown, t.....	10,298	11,832
Beaverton, v.....	1,217	1,242*	Geraldton, t.....	3,375	3,658
Belle River, v.....	1,854	2,280*	Glencoe, v.....	1,156	1,185
Belleville, c.....	30,655	32,785	Goderich, t.....	6,411	6,710*
Blenheim, t.....	3,151	3,356*	Gravenhurst, t.....	3,077	3,257
Blind River, t.....	4,093	3,617	Grimsby, t.....	5,148	6,634
Bobcaygeon, v.....	1,210	1,251	Guelph, c.....	39,838	51,377*
Bolton, v.....	2,104	2,344	Hagersville, v.....	2,075	2,169
Bowmanville, t.....	7,397	8,513	Haileybury, t.....	2,638	3,117
Bracebridge, t.....	2,927	3,045	Hamilton, c.....	273,991	298,121*
Bradford, t.....	2,342	2,529	Hanover, t.....	4,401	4,665*
Brampton, t.....	18,467	36,264	Harriston, t.....	1,631	1,748
Brantford, c.....	55,201	59,854*	Harrow, t.....	1,787	1,941
Bridgeport, v.....	1,672	2,111	Havelock, v.....	1,260	1,224
Brighton, v.....	2,403	2,766	Hawkesbury, t.....	8,661	9,188*
Brockville, c.....	17,744	19,266	Hearst, t.....	2,373	2,882
Burlington, t.....	47,008	65,941*	Hespeler, t.....	4,519	5,381
Caledonia, t.....	2,198	2,725	Huntsville, t.....	3,189	3,342*
Campbellford, t.....	3,478	3,445	Ingersoll, t.....	6,874	7,249
Cannington, v.....	1,024	1,049*	Iroquois, v.....	1,136	1,141
Capreol, t.....	3,003	3,092	Iroquois Falls, t.....	1,681	1,834
Cardinal, v.....	1,944	1,947	Kapusking, t.....	6,870	12,617*
Carleton Place, t.....	4,796	4,819	Keewatin, t.....	2,197	2,089
Casselman, v.....	1,277	1,227	Kemptville, t.....	1,959	2,182
Cayuga, v.....	897	1,031	Kenora, t.....	10,904	11,295
Chalk River, v.....	1,135	1,086	Kincardine, t.....	2,841	2,823
Chatham, c.....	29,826	32,424*	Kingston, c.....	53,526	59,004
Chelmsford, t.....	2,559	2,752	Kingsville, t.....	3,041	3,545*
Chesley, t.....	1,697	1,686	Kitchener, c.....	74,485	93,255*
Chesterville, v.....	1,248	1,258*	Lakefield, v.....	2,167	2,242
Chippawa, v.....	3,256	3,877	Leamington, t.....	9,030	9,554*
Clinton, t.....	3,491	3,280	Leaside, t.....	18,579	21,250
Cobalt, t.....	2,209	2,211	Levack, t.....	3,178	3,025
			Lindsay, t.....	11,399	12,090

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over,
by Province, Census Years 1961 and 1966—continued**

Province and Incorporated Centre	Population		Province and Incorporated Centre	Population	
	1961 Census	1966 Census		1961 Census	1966 Census
	No.	No.		No.	No.
Ontario—continued			Ontario—concluded		
Listowel, t.....	4,002	4,526	Rodney, v.....	1,041	1,090
Little Current, t.....	1,527	1,441	St. Catharines, c.....	84,472	97,101
Lively, t.....	3,211	3,169	St. Clair Beach, v.....	1,460	1,746
London, c.....	169,569	194,416	St. Mary's, t.....	4,482	4,750
Long Branch, v.....	11,039	12,980	St. Thomas, c.....	22,469	22,983
L'Orignal, v.....	1,189	1,238	Sarnia, c.....	50,976	54,552
Lucan, v.....	986	1,011	Sault Ste. Marie, c.....	43,088	74,594*
Lucknow, v.....	1,031	1,096	Seaford, t.....	2,255	2,241
Madoc, v.....	1,347	1,385	Shelburne, v.....	1,239	1,354
Markdale, v.....	1,090	1,113	Simcoe, t.....	8,754	9,929*
Markham, v.....	4,294	7,769	Sioux Lookout, t.....	2,453	2,667
Marmora, v.....	1,381	1,331	Smith's Falls, t.....	9,603	9,876
Massey, t.....	1,324	1,223	Smooth Rock Falls, t.....	1,131	1,191
Mattawa, t.....	3,314	3,143	Southampton, t.....	1,818	1,759
Meaford, t.....	3,834	3,866	Stayner, t.....	1,671	1,772
Midland, t.....	8,656	10,129*	Stirling, v.....	1,315	1,354
Milton, t.....	5,629	6,601*	Stittsville, v.....	1,508	1,651
Milverton, v.....	1,111	1,122	Stoney Creek, t.....	6,043	7,243
Mimico, t.....	18,212	19,431	Stouffville, v.....	3,188	3,883*
Mitchell, t.....	2,247	2,371	Stratford, c.....	20,467	23,068*
Morrisburg, v.....	1,820	1,938	Strathroy, t.....	5,150	5,786
Mount Forest, t.....	2,623	2,859*	Streetsville, t.....	5,056	5,884
Napanee, t.....	4,500	4,603	Sturgeon Falls, t.....	6,288	6,430
Newcastle, v.....	1,272	1,684	Sudbury, c.....	80,120	84,888*
New Hamburg, t.....	2,181	2,438	Sutton, v.....	1,470	1,594
New Liskeard, t.....	4,896	5,259	Swansea, v.....	9,628	9,703
Newmarket, t.....	8,932	9,758	Tavistock, v.....	1,232	1,294
New Toronto, t.....	13,384	13,234	Tecumseh, t.....	4,476	4,922
Niagara, t.....	2,712	3,113	Thamesville, v.....	1,054	1,067
Niagara Falls, c.....	22,351	56,891*	Thessalon, t.....	1,725	1,688
North Bay, c.....	23,781	23,635	Thornbury, t.....	1,097	1,149
Norwich, v.....	1,703	1,692	Thorold, t.....	8,633	8,843
Norwood, v.....	1,060	1,093	Tilbury, t.....	3,030	3,304*
Oakville, t.....	10,366	52,793*	Tillsonburg, t.....	6,600	6,526*
Orangeville, t.....	4,593	5,588	Timmins, t.....	29,270	29,303
Orillia, t.....	15,345	15,295	Toronto, c.....	672,407	664,584
Oshawa, c.....	62,415	78,082	Trenton, t.....	13,183	13,746*
Ottawa, c.....	268,206	290,741	Tweed, v.....	1,791	1,747
Owen Sound, c.....	17,421	17,769	Uxbridge, t.....	2,316	2,621
Palmerston, t.....	1,554	1,631	Vankleek Hill, t.....	1,735	1,662
Paris, t.....	5,820	6,271*	Victoria Harbour, v.....	1,066	1,114
Parkhill, t.....	1,169	1,126	Walkerton, t.....	3,851	4,380
Parry Sound, t.....	6,004	5,901	Wallaceburg, t.....	7,881	10,696*
Pembroke, t.....	16,791	16,262	Wasaga Beach, v.....	431	1,382*
Penetanguishene, t.....	5,340	5,349	Waterdown, v.....	1,844	1,935
Perth, t.....	5,360	5,559	Waterford, t.....	2,221	2,379
Petawawa, v.....	4,509	5,574	Waterloo, c.....	21,366	29,889*
Peterborough, c.....	47,185	56,177*	Watford, v.....	1,293	1,299
Petrolia, t.....	3,708	3,929	Welland, c.....	36,079	39,960
Pickering, v.....	1,755	1,991	Weston, t.....	9,715	11,047
Pictou, t.....	4,862	5,027*	Wheatley, v.....	1,362	1,547
Point Edward, v.....	2,744	2,903	Whitby, t.....	14,685	17,273
Port Arthur, c.....	45,276	48,340	Wiaraton, t.....	2,138	2,034
Port Colborne, c.....	14,886	17,988*	Winchester, v.....	1,429	1,450
Port Credit, t.....	7,203	8,475*	Windsor, c.....	114,367	192,544*
Port Dover, t.....	3,064	3,220*	Wingham, t.....	2,922	2,974
Port Elgin, t.....	1,632	2,058*	Woodbridge, v.....	2,315	2,473
Port Hope, t.....	8,091	8,656*	Woodstock, c.....	20,486	24,027*
Port McNicoll, v.....	1,053	1,208	Wyoming, v.....	880	1,024
Port Perry, v.....	2,262	2,651			
Port Stanley, v.....	1,460	1,488			
Powassan, t.....	1,064	1,071			
Prescott, t.....	5,366	5,176	Manitoba—		
Preston, t.....	11,577	13,380	Altona, t.....	2,026	2,129
Rainy River, t.....	1,168	1,149	Beauséjour, t.....	1,770	2,214
Renfrew, t.....	8,935	9,502	Boisévain, t.....	1,303	1,473
Richmond, v.....	1,215	1,391	Brandon, c.....	28,166	29,981
Richmond Hill, t.....	10,446	19,773	Brooklands, t.....	4,369	4,181
Ridgetown, t.....	2,603	2,678	Carberry, t.....	1,113	1,265
Rockcliffe Park, v.....	2,084	2,246	Carman, t.....	1,930	1,922
Rockland, t.....	3,037	3,513*	Dauphin, t.....	7,374	8,655*
			East Kildonan c.....	27,305	28,796

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over,
by Province, Census Years 1961 and 1966—continued**

Province and Incorporated Centre	Population		Province and Incorporated Centre	Population	
	1961 Census	1966 Census		1961 Census	1966 Census
	No.	No.		No.	No.
Manitoba—concluded			Saskatchewan—concluded		
Flin Flon, t. (Man. and Sask.)...	11,104	10,201	Outlook, t.....	1,340	1,499
Gimli, t.....	1,841	2,262	Oxbow, t.....	1,359	1,569*
Killarney, t.....	1,729	1,835*	Preeceville, t.....	924	1,202
Melita, t.....	1,038	1,101*	Prince Albert, c.....	24,168	26,269*
Minnedosa, t.....	2,211	2,305	Radville, t.....	1,067	1,053
Morden, t.....	2,793	3,097*	Regina, c.....	112,141	131,127*
Morris, t.....	1,370	1,339	Rosetown, t.....	2,450	2,658
Neepawa, t.....	3,197	3,229	Rosthern, t.....	1,264	1,414*
Portage la Prairie, c.....	12,388	13,012	Saskatoon, c.....	95,526	115,892*
Rivers, t.....	1,574	1,685	Shaunavon, t.....	2,154	2,318
Roblin, t.....	1,368	1,617*	Shellbrook, t.....	1,042	1,088
Russell, t.....	1,263	1,511	Swift Current, c.....	12,186	14,485*
St. Boniface, c.....	37,600	43,214	Tisdale, t.....	2,402	2,914*
St. James, c.....	33,977	35,685	Unity, t.....	1,902	2,154
St. Vital, c.....		29,528	Wadena, t.....	1,311	1,404
Selkirk, t.....	8,576	9,157	Wakaw, t.....	974	1,032*
Souris, t.....	1,841	1,829*	Watrous, t.....	1,461	1,459
Steinbach, t.....	3,739	4,648*	Weyburn, c.....	9,101	9,000
Stonewall, t.....	1,420	1,577	Whitewood, t.....	900	1,069
Swan River, t.....	3,163	3,470	Wilkie, t.....	1,612	1,603
The Pas, t.....	4,671	5,031*	Wolseley, t.....	1,031	1,048
Transcona, c.....	14,248	19,761	Wynyard, t.....	1,686	1,956*
Tuxedo, t.....	1,627	2,480	Yorkton, c.....	9,995	12,645*
Virden, t.....	2,708	2,933			
West Kildonan, c.....	20,977	22,240			
Winkler, t.....	2,529	2,570*			
Winnipeg, c.....	265,429	257,005*			
Saskatchewan—			Alberta—		
Assiniboia, t.....	2,491	2,872*	Athabasca, t.....	1,487	1,551
Battleford, t.....	1,627	1,766	Barrhead, t.....	2,286	2,592
Biggar, t.....	2,702	2,755	Beaverlodge, t.....	897	1,083*
Broadview, t.....	1,008	1,051*	Bellevue, v.....	1,323	1,174
Canora, t.....	2,117	2,734	Blairmore, t.....	1,980	1,779
Carlyle, t.....	982	1,064	Bonnyville, t.....	1,736	2,237*
Carnduff, t.....	957	1,194	Bow Island, t.....	1,122	1,160
Carrot River, t.....	930	1,052*	Brooks, t.....	2,827	3,354
Creighton, t.....	1,729	1,710	Calgary, c.....	249,641	330,575*
Davidson, t.....	1,928	1,066	Camrose, c.....	8,939	8,362*
Esterhazy, t.....	1,114	3,190*	Camrose, v.....		1,445
Estevan, c.....	7,728	9,062*	Cardston, t.....	2,801	2,721
Eston, t.....	1,695	1,548	Caster, t.....	1,025	1,090
Flin Flon, t.....		2	Clareholm, t.....	1,025	2,569*
Foam Lake, t.....	933	1,165*	Coaldale, t.....	2,592	2,541*
Fort Qu'Appelle, t.....	1,521	1,600	Cold Lake, t.....	1,307	1,289*
Gravelbourg, t.....	1,499	1,626*	Coleman, t.....	1,713	1,507*
Grenfell, t.....	1,256	1,369	Devon, t.....	1,418	1,283
Gull Lake, t.....	1,038	1,235*	Didsbury, t.....	1,254	1,586
Herbert, t.....	1,008	1,040	Drayton Valley, t.....	3,854	3,352*
Hudson Bay, t.....	1,601	1,957*	Drumheller, c.....	2,931	3,574*
Humboldt, t.....	3,245	3,670*	Edmonton, c.....	281,027	376,925*
Indian Head, t.....	1,802	1,891*	Edson, t.....	3,198	3,788*
Kamsack, t.....	2,968	2,682*	Fairview, t.....	1,506	1,884*
Kerrobert, t.....	1,220	1,237	Fort Macleod, t.....	2,490	2,709
Kindersley, t.....	2,990	3,534*	Fort McMurray, t.....	1,186	2,614*
Langenburg, t.....	757	1,269	Fort Saskatchewan, t.....	2,972	4,152*
Leader, t.....	1,211	1,236	Grand Centre, t.....	1,493	1,731*
Lloydminster, c.....			Grande Prairie, c.....	8,352	11,417*
(Sask. and Alta.).....	5,667	7,071*	Grimshaw, t.....	1,095	1,376*
Maple Creek, t.....	2,291	2,359	Hanna, t.....	2,645	2,635
Meadow Lake, t.....	2,803	3,375*	High Prairie, t.....	1,756	2,241
Melfort, t.....	4,039	4,386	High River, t.....	2,276	2,239
Melville, c.....	5,191	5,690*	Hinton, t.....	3,529	4,307
Moose Jaw, c.....	33,206	33,417*	Innisfail, t.....	2,270	2,531*
Moosomin, t.....	1,781	2,141	Lac La Biche, t.....	1,314	1,490
Nipawin, t.....	3,836	3,963	Lacombe, t.....	3,029	3,035
North Battleford, c.....	11,230	12,262	Leduc, t.....	2,356	2,856*
			Lethbridge, c.....	35,454	37,186*
			Lloydminster, c.....	s	s
			Magrath, t.....	1,338	1,220*
			Manning, t.....	896	1,179

* Incorporated after June 1, 1961.

* See Manitoba.

* See Saskatchewan.

**10.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over,
by Province, Census Years 1961 and 1966—concluded**

Province and Incorporated Centre	Population		Province or Territory and Incorporated Centre	Population	
	1961 Census	1966 Census		1961 Census	1966 Census
	No.	No.		No.	No.
Alberta—concluded			British Columbia—concluded		
McLennan, t.....	1,078	1,104*	Gibson's Landing, v.....	1,091	1,450
Medicine Hat, c.....	24,484	25,574	Golden, v.....	1,776	2,590
Olds, t.....	2,433	2,999*	Grand Forks, c.....	2,347	2,556*
Peace River, t.....	2,543	4,087*	Hope, t.....	2,751	2,943
Picture Butte, t.....	978	1,013*	Invermere, v.....	744	1,022*
Pincher Creek, t.....	2,961	2,882*	Kamloops, c.....	10,076	10,759
Ponoka, t.....	3,938	4,421*	Kelowna, c.....	13,188	17,006*
Provost, t.....	1,022	1,328	Kimberley, c.....	6,013	5,901
Raymond, t.....	2,362	1,950	Kinnaird, v.....	2,123	2,869*
Redcliff, t.....	2,221	2,141	Ladysmith, t.....	2,173	3,410*
Red Deer, c.....	19,612	26,171*	Lake Cowichan, v.....	2,149	2,353
Redwater, t.....	1,135	1,041	Langley, c.....	2,365	2,800
Rimbey, t.....	1,266	1,502*	Lillooet, v.....	1,304	1,379*
Rocky Mountain House, t.....	2,360	2,446	Marysville, v.....	1,057	1,126
St. Albert, t.....	4,059	9,736*	Merritt, t.....	3,039	4,500
St. Paul, t.....	2,823	3,543*	Mission City, t.....	3,251	3,412
Slave Lake, t.....	468	1,716*	Montrose, v.....	862	1,079
Spirit River, t.....	890	1,034*	Nakusp, v.....	1	1,282
Stettler, t.....	3,638	3,988*	Nanaimo, c.....	14,135	15,188
Stony Plain, t.....	1,311	1,397	Nelson, c.....	7,074	9,504*
Swan Hills, t.....	643	1,414	New Westminster, c.....	33,654	38,013*
Sylvan Lake, t.....	1,381	1,332	North Kamloops, t.....	6,456	11,319*
Taber, t.....	3,951	4,584	North Vancouver, c.....	23,656	26,851
Three Hills, t.....	1,491	1,452*	Oliver, v.....	1,774	1,563*
Two Hills, t.....	826	1,056*	Osoyoos, v.....	1,022	1,166*
Valleyview, t.....	1,077	1,827*	Parksville, v.....	1,183	1,426
Vegreville, t.....	2,908	3,598*	Penticton, c.....	13,859	15,330*
Vermilion, t.....	2,449	2,685	Port Alberni, c.....	11,560	13,755*
Viking, t.....	1,043	1,146*	Port Coquitlam, c.....	8,111	11,121
Vulcan, t.....	1,310	1,505*	Port Moody, c.....	4,789	7,021
Wainwright, t.....	3,351	3,867*	Prince George, c.....	13,877	24,471*
Westlock, t.....	1,838	2,685*	Prince Rupert, c.....	11,987	14,677*
Wetaskiwin, c.....	5,300	6,008*	Princeton, v.....	2,163	2,151*
Whitcourt, t.....	1,054	2,279*	Quesnel, t.....	4,673	5,725*
			Revelstoke, c.....	3,624	4,791*
British Columbia—			Rossland, c.....	4,354	4,264
Alberni, c.....	4,616	4,783	Salmon Arm, v.....	1,506	1,854
Armstrong, c.....	1,288	1,426	Sidney, v.....	1,558	3,165*
Ashcroft, v.....	868	1,154*	Smithers, v.....	2,487	3,135*
Burns Lake, v.....	1,041	1,290	Trail, c.....	11,580	11,600
Castlegar, t.....	2,253	3,440*	Ucluelet, v.....	782	1,054*
Chetwynd, v.....	1	1,368	Vancouver, c.....	384,522	410,375
Chilliwack, c.....	8,259	8,681	Vanderhoof, v.....	1,460	1,507
Comox, v.....	1,756	2,671	Vernon, c.....	10,250	11,423*
Courtenay, c.....	3,485	4,913	Victoria, c.....	54,941	57,453
Cranbrook, c.....	5,549	7,849*	Warfield, v.....	2,212	2,255
Creston, t.....	2,460	2,920*	White Rock, c.....	6,453	7,787
Cumberland, v.....	1,303	1,277	Williams Lake, t.....	2,120	3,167
Dawson Creek, c.....	10,946	12,392*			
Duncan, c.....	3,726	4,299	Yukon Territory—		
Enderby, c.....	1,075	1,114	Whitehorse, c.....	5,031	4,771
Fernie, c.....	2,661	2,715*			
Fort St. James, v.....	1,081	1,213	Northwest Territories—		
Fort St. John, t.....	3,619	6,749*	Fort Smith, v.....	1	2,120
Fruitvale, v.....	1,032	1,203	Hay River, t.....	1	2,002
			Yellowknife, t.....	1	3,741

* Incorporated after June 1, 1961.

Subsection 5.—Sex and Age Distribution

The sex and age distributions of a population are basic to most, if not all, other analyses, as they influence employment, marriage, birth and death rates and a multitude of other factors that are of great importance in the national life.

Sex.—The Canadian population has always been characterized by an excess of males, although this excess has been greatly modified in recent years. Since Confederation, the peak sex ratio for Canada as a whole was 113 reached in 1911, a census year that fell within

a period of heavy immigration; the 1966 ratio was 101. In the older settled provinces east of Manitoba the ratio varied between 104 in 1911 and 100 in 1966, but in the western provinces which were being opened to settlement in the early years of the century the ratio changed from a high of 146 in 1911 to 103 in 1966.

The sex distributions and variations in ratio among the provinces are given for the census years 1951, 1956, 1961 and 1966 in Table 11.

11.—Sex Distribution of the Population and Sex Ratio, by Province, Census Years 1951, 1956, 1961 and 1966

Province or Territory	1951			1956		
	Males	Females	Males to 100 Females	Males	Females	Males to 100 Females
	No.	No.	No.	No.	No.	No.
Newfoundland.....	185,143	176,273	105	213,905	201,169	106
Prince Edward Island.....	50,218	48,211	104	50,510	48,775	104
Nova Scotia.....	324,955	317,629	102	353,182	341,535	103
New Brunswick.....	259,211	256,486	101	279,590	275,026	102
Quebec.....	2,022,127	2,033,554	99	2,317,677	2,310,701	100
Ontario.....	2,314,170	2,283,372	101	2,721,519	2,683,414	101
Manitoba.....	394,818	381,723	103	432,478	417,562	104
Saskatchewan.....	434,568	397,160	109	458,428	422,237	109
Alberta.....	492,192	447,309	110	585,921	537,195	109
British Columbia.....	596,961	568,249	105	720,516	677,948	106
Yukon Territory.....	5,457	3,639	150	6,924	5,266	131
Northwest Territories.....	9,053	6,951	130	11,229	8,084	139
Canada.....	7,088,873	6,920,556	102	8,151,879	7,928,912	103
	1961			1966		
	Males	Females	Males to 100 Females	Males	Females	Males to 100 Females
	No.	No.	No.	No.	No.	No.
Newfoundland.....	234,924	222,929	105	252,125	241,271	104
Prince Edward Island.....	53,357	51,272	104	54,974	53,561	103
Nova Scotia.....	374,244	362,763	103	380,517	375,522	101
New Brunswick.....	302,440	295,496	102	310,145	306,643	101
Quebec.....	2,631,856	2,627,355	100	2,885,927	2,894,918	100
Ontario.....	3,134,528	3,101,564	101	3,479,149	3,481,721	100
Manitoba.....	468,503	453,183	103	484,266	478,800	101
Saskatchewan.....	479,564	445,617	108	489,040	466,304	105
Alberta.....	689,383	642,561	107	746,245	716,958	104
British Columbia.....	829,094	799,988	104	948,585	925,089	103
Yukon Territory.....	8,178	6,450	127	7,805	6,577	119
Northwest Territories.....	12,822	10,176	126	15,566	13,172	118
Canada.....	9,218,893	9,019,354	102	10,054,344	9,960,536	101

Age.—The age composition of the Canadian population is, of course, a reflection of past trends in vital rates and immigration. The lower birth rate of the 1961-66 period relative to that of the late 1950s had a considerable impact on the population under 15 years of age in 1966. This age group increased by only 400,000 or 6.5 p.c. between 1961 and 1966 as compared with a gain of 967,000 or 18.5 p.c. in the 1956-61 period. As a result, the proportion that this age group formed of the total population fell from 34.0 p.c. in 1961 to 32.9 p.c. in 1966. The population of working age—those 15-64—increased more substantially, with a gain in excess of 1,200,000 or 11.5 p.c. in the 1961-66 period. Consequently, this age group constituted 59.4 p.c. of the total population in 1966 as compared with 58.4 p.c. five years earlier. Close to one third of the over-all 1961-66 increase in the 15-64 age group occurred among those 15-19 years of age. This young adult age group in 1966 was, of course, comprised of those born in the high birth rate, postwar years. The proportion of persons 65 years of age or over was approximately the same in 1966 as in 1961.

Table 12 shows the population of Canada classified by five-year age groups and by sex for the census years 1951, 1956, 1961 and 1966. The provincial distribution by specified age group is given for 1966 in Table 13.

12.—Male and Female Populations, by Age Group, Census Years 1951, 1956, 1961 and 1966

Age Group	1951		1956		1961		1966	
	Male	Female	Male	Female	Male	Female	Male	Female
	No.	No.	No.	No.	No.	No.	No.	No.
0 - 4 years.....	879,063	843,046	1,011,835	971,728	1,154,091	1,102,310	1,128,771	1,068,616
5 - 9 ".....	713,873	683,952	919,952	887,101	1,063,840	1,015,682	1,172,821	1,128,036
10 - 14 ".....	575,122	555,661	732,032	702,562	948,160	907,839	1,071,255	1,022,258
15 - 19 ".....	532,180	525,792	596,635	575,666	729,035	703,524	928,958	908,767
20 - 24 ".....	537,535	551,106	567,179	561,931	587,139	596,507	727,115	734,183
25 - 29 ".....	552,812	578,403	605,836	592,301	613,897	595,400	619,462	622,332
30 - 34 ".....	512,557	530,177	602,535	613,750	644,407	627,403	630,498	611,199
35 - 39 ".....	503,571	495,562	555,763	558,622	631,072	639,852	649,769	636,375
40 - 44 ".....	445,800	422,767	522,615	502,784	559,996	558,965	624,709	632,319
45 - 49 ".....	387,708	356,971	455,827	422,988	515,516	499,800	542,752	547,163
50 - 54 ".....	340,461	322,195	381,835	351,215	442,909	420,279	498,283	489,981
55 - 59 ".....	292,564	278,126	321,973	307,271	362,145	343,690	413,389	402,911
60 - 64 ".....	264,324	241,828	265,652	259,265	292,569	291,066	330,006	333,404
65 - 69 ".....	228,076	205,421	237,551	226,562	239,685	247,417	254,938	276,771
70 - 74 ".....	160,398	154,674	187,490	183,218	196,076	206,099	198,808	228,399
75 - 79 ".....	94,130	94,261	113,550	113,948	134,186	140,051	138,967	161,398
80 - 84 ".....	45,963	50,828	55,636	61,460	69,046	77,771	80,664	96,655
85 - 89 ".....	17,539	22,060	21,688	26,670	27,178	33,606	33,073	43,717
90 years or over...	5,197	7,726	6,295	9,870	7,946	12,093	10,106	10,052
Totals....	7,088,873	6,920,556	8,151,879	7,928,912	9,218,893	9,019,354	10,054,344	9,960,536

13.—Age Distribution of the Population, by Province, Census 1966

Province or Territory	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-34 Years
	No.	No.	No.	No.	No.	No.
Newfoundland.....	68,545	67,007	63,531	54,307	35,976	53,299
Prince Edward Island.....	12,587	13,023	12,023	11,061	6,781	11,256
Nova Scotia.....	85,521	87,433	81,600	74,142	52,598	84,372
New Brunswick.....	72,859	76,295	72,908	65,567	42,331	65,198
Quebec.....	632,489	682,874	628,210	566,315	474,158	752,995
Ontario.....	745,744	770,061	688,270	599,197	485,053	881,011
Manitoba.....	102,425	105,527	99,227	87,848	66,899	109,460
Saskatchewan.....	107,615	110,130	103,304	88,412	62,150	104,651
Alberta.....	173,568	179,540	157,658	128,999	102,005	186,681
British Columbia.....	188,778	203,068	182,424	158,406	129,761	227,754
Yukon Territory.....	2,124	1,848	1,437	1,017	1,116	2,339
Northwest Territories.....	5,232	4,051	2,921	2,454	2,470	4,475
Canada.....	2,197,387	2,300,857	2,093,513	1,537,725	1,461,298	2,483,491
	35-44 Years	45-54 Years	55-64 Years	65-69 Years	70+ Years	Total
	No.	No.	No.	No.	No.	No.
Newfoundland.....	49,027	43,867	28,665	10,261	18,911	493,396
Prince Edward Island.....	10,912	10,846	8,357	3,595	8,094	108,535
Nova Scotia.....	84,118	81,138	57,838	21,642	45,637	756,039
New Brunswick.....	66,697	60,595	44,020	16,623	33,695	616,788
Quebec.....	730,872	565,813	395,465	133,813	217,841	5,780,345
Ontario.....	941,974	744,385	537,453	199,206	368,516	6,960,870
Manitoba.....	117,065	106,752	79,005	28,668	60,190	963,066
Saskatchewan.....	110,413	103,270	76,617	27,264	61,618	955,344
Alberta.....	184,532	145,224	100,986	35,195	68,815	1,463,203
British Columbia.....	242,415	213,059	149,343	54,902	123,764	1,873,674
Yukon Territory.....	2,016	1,240	732	216	297	14,382
Northwest Territories.....	3,131	1,990	1,229	324	461	28,738
Canada.....	2,543,172	2,078,179	1,479,710	531,709	1,007,839	20,014,880

Subsection 6.—Marital Status

After sex and age, marital status analysis is probably next in importance from a vital, economic and social viewpoint. The number of married females between 15 and 45 years of age is a most significant factor in the fertility of a population. If the proportion of females in this group is low, the expected birth rate will be low. In 1966, 61.2 p.c. of all married females were in the 15-44 age group compared with 62.9 p.c. in 1961, 64.0 p.c. in 1951, 61.2 p.c. in 1941 and 63.5 p.c. in 1931.

In the 1961-66 period, the total population 15 years of age or over increased by 11.4 p.c. while the single adult population rose by 18.0 p.c., the married by 8.7 p.c. and the widowed and divorced combined by 12.5 p.c. Thus, the proportion of the adult population who were single increased from 26.5 p.c. in 1961 to 28.0 p.c. in 1966 and the married proportion fell from 66.6 p.c. to 65.0 p.c. in the five-year interval. It is of interest that the 1961-66 decline in the proportion married is largely attributable to smaller proportions in this category in the younger adult age groups. The proportion of those 25 years of age or over who were married was approximately the same at the two census years, i.e., 79 p.c., but the married proportion for the 15-24 age group fell from 23.0 p.c. in 1961 to 21.4 p.c. in 1966.

The marital status of the population in 1966 is shown in Table 14.

14.—Marital Status of the Population, by Age Group and Sex, Census 1966

Age Group and Sex		Single	Married	Widowed	Divorced	Total
		No.	No.	No.	No.	No.
Under 15 years.....	M.	3,372,847	—	—	—	3,372,847
	F.	3,218,910	—	—	—	3,218,910
	T.	6,591,757	—	—	—	6,591,757
15-19 "	M.	917,589	11,188	160	21	928,958
	F.	839,812	68,692	167	96	908,767
	T.	1,757,401	79,880	327	117	1,837,725
20-24 "	M.	508,672	217,779	291	373	727,115
	F.	324,762	406,922	1,031	1,468	734,183
	T.	833,434	624,701	1,322	1,841	1,461,298
25-34 "	M.	265,222	979,302	1,604	3,832	1,249,960
	F.	149,678	1,068,296	7,368	8,189	1,233,531
	T.	414,900	2,047,598	8,972	12,021	2,483,491
35-44 "	M.	146,523	1,114,948	6,408	6,599	1,274,478
	F.	98,428	1,127,718	31,364	11,184	1,268,694
	T.	244,951	2,242,666	37,772	17,783	2,543,172
45-54 "	M.	104,744	914,181	15,523	6,587	1,041,035
	F.	89,947	858,387	78,451	10,359	1,037,144
	T.	194,691	1,772,568	93,974	16,946	2,078,179
55-64 "	M.	78,678	627,089	32,782	4,846	743,395
	F.	76,473	511,869	142,234	5,739	736,315
	T.	155,151	1,138,958	175,016	10,585	1,479,710
65-69 "	M.	28,832	199,031	25,593	1,482	254,938
	F.	28,110	149,170	98,172	1,319	276,771
	T.	56,942	348,201	123,765	2,801	531,703
70 years or over.....	M.	50,657	296,036	113,286	1,639	461,618
	F.	56,706	172,609	315,863	1,043	546,221
	T.	107,363	468,645	429,149	2,682	1,007,839
All Ages.....	M.	5,473,764	4,359,554	195,647	25,379	10,054,344
	F.	4,882,826	4,363,663	674,650	39,397	9,960,536
	T.	10,356,590	8,723,217	870,297	64,776	20,014,880

Subsection 7.—Ethnic Groups and Birthplaces

Ethnic Groups.—A population made up of diverse ethnic groups gives rise to political, social and economic problems quite different in nature from those of one with a more homogeneous ethnic composition. These problems are mitigated, however, to the extent that certain groups are more easily integrated than others. It is equally true that the different backgrounds of various ethnic groups lend variety and diversity to the national life.

The two basic groups in the Canadian population are the French and British Isles ethnic groups. The influence of the French in Canada covers a longer period and, with the exception of the 1921 Census, this group has always exceeded in number any of the components of the British Isles ethnic group.

In 1961, each person was asked the question: "To what ethnic or cultural group did you or your ancestor (on the male side) belong on coming to this Continent?". The language spoken at the time by the person, or his paternal ancestor, was used as an aid in determining the person's ethnic group. The classification is given for 1961 in Table 15 with comparative figures for 1951 and 1941. Information on ethnic group was not collected in the 1956 or 1966 Censuses.

15.—Distribution of the Population by Ethnic Group, Census Years 1941, 1951 and 1961

Ethnic Group	1941 ¹	1951	1961	
	No.	No.	No.	p.c.
British Isles	5,715,904	6,709,685	7,996,669	43.8
English.....	2,968,402	3,630,344	4,195,175	23.0
Irish.....	1,267,702	1,439,635	1,753,351	9.6
Scottish.....	1,403,974	1,547,470	1,902,302	10.4
Other.....	75,826	92,236	145,841	0.8
Other European	5,526,964	6,872,889	9,657,195	53.0
Austrian.....	37,715	32,231	106,535	0.6
Belgian.....	29,711	35,148	61,382	0.3
Czech and Slovak.....	42,912	63,959	73,061	0.4
Danish.....	37,439	42,671	85,473	0.5
Finnish.....	41,683	43,745	59,436	0.3
French.....	3,483,038	4,319,167	5,540,346	30.4
German.....	464,682	619,995	1,049,599	5.8
Greek.....	11,692	13,966	56,475	0.3
Hungarian.....	54,598	60,460	126,220	0.7
Icelandic.....	21,050	23,307	30,623	0.2
Italian.....	112,625	152,245	450,351	2.5
Jewish.....	170,241	181,670	173,344	1.0
Lithuanian.....	7,789	16,224	27,629	0.2
Netherlands.....	212,863	264,267	429,679	2.4
Norwegian.....	100,718	119,266	148,681	0.8
Polish.....	167,435	219,845	323,517	1.8
Romanian.....	24,689	23,601	43,805	0.2
Russian.....	83,708	91,279	119,168	0.7
Swedish.....	85,396	97,780	121,757	0.7
Ukrainian.....	305,929	395,043	473,337	2.6
Yugoslavic.....	21,214	21,404	68,587	0.4
Other.....	9,787	35,616	88,190	0.5
Asiatic	74,064	72,827	121,753	0.7
Chinese.....	34,627	32,528	58,197	0.3
Japanese.....	23,149	21,663	29,157	0.2
Other.....	16,288	18,636	34,399	0.2
Other Origin	189,723	351,028	462,630	2.5
Native Indian and Eskimo.....	125,521	165,607	220,121	1.2
Negro.....	22,174	18,020	32,127	0.2
Other and not stated.....	42,028 ²	170,401	210,382	1.2

¹ Excludes Newfoundland.² Includes 35,416 half-breeds.

Birthplaces.—Table 16 gives the total population of Canada classified by country of birth for the census years 1941, 1951 and 1961, and Table 17 shows the province of birth of Canadian-born persons for the same years. For immigrants, the country of birth was recorded according to boundaries existing at the date of the census. Information on birthplaces was not collected in the 1956 or 1966 Censuses.

16.—Country of Birth of the Population, Census Years 1941, 1951 and 1961

Country	1941 ¹	1951	1961	
	No.	No.	No.	p.c.
Canada.....	9,487,808	11,949,518	15,393,984	84.4
British Isles.....	960,125 ²	912,482	969,715	5.3
Other Commonwealth.....	43,644	20,567	47,887	0.3
Europe.....	653,705	801,618	1,468,058	8.0
Austria.....	50,713	37,598	70,192	0.4
Czechoslovakia.....	25,564	29,546	35,743	0.2
France.....	13,795	15,650	36,103	0.2
Germany.....	28,479	42,693	189,131	1.0
Greece.....	5,871	8,594	38,017	0.2
Hungary.....	31,813	32,929	72,900	0.4
Italy.....	40,432	57,789	258,071	1.4
Netherlands.....	9,923	41,457	135,033	0.7
Poland.....	155,400	164,474	171,467	0.9
Scandinavian countries ³	72,473	64,522	74,616	0.4
Union of Soviet Socialist Republics.....	124,402	188,292	186,653	1.0
Yugoslavia.....	17,416	20,912	50,826	0.3
Other European.....	77,424	97,162	149,306	0.8
Asia.....	44,443	37,145	57,761	0.3
China.....	29,095	24,166	36,724	0.2
Other Asian.....	15,348	12,979	21,037	0.1
United States.....	312,473	282,010	283,908	1.6
Other countries.....	3,512	6,089	16,934	0.1
Totals.....	11,506,655⁴	14,009,429	18,238,247	100.0

¹ Excludes Newfoundland, Norway and Sweden.

² Includes the Republic of Ireland.

³ Includes Denmark, Iceland,

⁴ Includes persons whose birthplace was not stated.

17.—Province of Birth of Canadian-Born Persons, Census Years 1941, 1951 and 1961

Province	1941	1951	1961	Province or Territory	1941	1951	1961
	No.	No.	No.		No.	No.	No.
Nfld.....		397,623	497,591	Sask.....	667,832	817,404	1,030,755
P.E.I.....	108,423	117,310	130,123	Alta.....	479,098	649,594	965,425
N.S.....	568,797	660,150	783,848	B.C.....	335,554	514,651	843,596
N.B.....	463,127	549,984	655,066	Y.T. and N.W.T.....	12,267	16,654	26,028
Que.....	3,155,549	3,881,487	4,916,024				
Ont.....	3,123,810	3,645,074	4,667,159				
Man.....	570,349	699,587	878,369				
				Canada.....	9,487,808¹	11,949,518	15,393,984

¹ Includes persons born in Canada whose province of birth was not stated.

Subsection 8.—Religious Denominations

In the 1961 Census, enumerators were instructed to record the specific religious body, denomination, sect or community reported in answer to the question: "What is your religion?" Thus, it should be noted that census figures do not measure church membership or indicate the degree of affiliation with any religious body. As shown in Table 18, close to eight out of ten persons in Canada stated that they belonged to one of the three numerically largest denominations—Roman Catholic, United Church and Anglican—in 1961. The table gives comparative figures for the census years 1941 and 1951; this information was not collected in the 1956 or 1966 Censuses.

18.—Principal Religious Denominations of the Population, Census Years 1941, 1951 and 1961

Religious Denomination	1941	1951	1961	
	No.	No.	No.	p.c.
Adventist.....	18,485	21,398	25,999	0.1
Anglican Church of Canada.....	1,754,368	2,060,720	2,409,068	13.2
Baptist.....	484,465	519,585	593,553	3.3
Greek Orthodox.....	139,845	172,271	239,766	1.3
Jehovah's Witnesses.....	7,007	34,596	68,018	0.4
Jewish.....	168,585	204,836	254,368	1.4
Lutheran.....	401,336	444,923	662,744	3.6
Mennonite ¹	111,554	125,938	152,452	0.8
Mormon.....	25,328	32,888	50,016	0.3
Pentecostal.....	57,742	95,131	143,877	0.8
Presbyterian.....	830,597	781,747	818,558	4.5
Roman Catholic.....	4,806,431	6,069,496	8,342,826	45.7
Salvation Army.....	33,609	70,275	92,054	0.5
Ukrainian (Greek) Catholic ²	185,948	191,051	183,653	1.0
United Church of Canada.....	2,208,658	2,867,271	3,664,008	20.1
Other.....	272,197	317,303	531,287	2.9
Totals.....	11,503,655³	14,093,429	18,238,247	100.0

¹ Includes "Hutterites".² Includes "Other Greek Catholic".³ Exclusive of Newfoundland.

Subsection 9.—Languages and Mother Tongues

The term "official language" used by the census refers only to the English and French languages.* "Mother tongue" is the language a person first learned in childhood and still understands. It should be noted that persons indicated as speaking "English only" or "French only" with respect to official language may also speak other languages and have a mother tongue other than English or French. The use of the English and French languages in Canada at the time of the 1961 Census is discussed in a special article appearing in the 1965 Year Book at pp. 180-184. Table 19 gives the numerical and percentage distribution of official language by province in 1961; this information was not collected in the 1966 Census.

* The British North America Act, 1867 (Sect. 133) makes provision for the use of the English and French languages as follows:—

"Either the English or the French Language may be used by any Person in the Debates of the Houses of the Parliament of Canada and of the Houses of the Legislature of Quebec; and both those Languages shall be used in the respective Records and Journals of those Houses; and either of those Languages may be used by any Person or in any Pleading or Process in or issuing from any Court of Canada established under this Act, and in or from all or any of the Courts of Quebec.

The Acts of the Parliament of Canada and of the Legislature of Quebec shall be printed and published in both those Languages."

19.—Numerical and Percentage Distribution of the Population Speaking One, Both or Neither of the "Official" Languages, by Province, Census 1961

NOTE.—See text and footnote above *re* the term "official language".

Province or Territory	English Only		French Only		English and French		Neither English nor French	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
Newfoundland.....	450,945	98.5	522	0.1	5,299	1.2	1,087	0.2
Prince Edward Island.....	95,296	91.1	1,219	1.2	7,938	7.6	176	0.2
Nova Scotia.....	684,805	92.9	5,938	0.8	44,987	6.1	1,277	0.2
New Brunswick.....	370,922	62.0	112,054	18.7	113,495	19.0	1,465	0.2
Quebec.....	608,635	11.6	3,254,850	61.9	1,338,878	25.5	56,848	1.1
Ontario.....	5,548,765	89.0	95,236	1.5	493,270	7.9	98,820	1.6
Manitoba.....	825,955	89.6	7,954	0.9	68,368	7.4	19,409	2.1
Saskatchewan.....	865,821	93.6	3,853	0.4	42,074	4.5	13,433	1.5
Alberta.....	1,253,824	94.1	5,534	0.4	56,920	4.3	15,666	1.2
British Columbia.....	1,552,500	95.3	2,559	0.2	57,504	3.5	16,459	1.0
Yukon Territory.....	13,679	93.5	38	0.3	825	5.6	86	0.6
Northwest Territories.....	13,554	58.9	109	0.5	1,614	7.0	7,721	33.6
Canada.....	12,284,762	67.4	3,489,866	19.1	2,231,172	12.2	232,447	1.3

Mother tongues of the population are shown in Table 20. The proportion reporting English as their mother tongue in 1961 was 58.5 p.c. (compared with 59.1 p.c. in 1951), French 28.1 p.c. (29.0 p.c. in 1951) and all other mother tongues 13.5 p.c. (11.8 p.c. in 1951).

20.—Mother Tongues of the Population, Census 1961

Mother Tongue	Number	Percentage of Total	Mother Tongue	Number	Percentage of Total
English.....	10,660,534	58.45	Danish.....	35,035	0.19
French.....	5,123,151	28.09	Swedish.....	32,632	0.18
German.....	563,713	3.09	Serbo-Croatian.....	28,866	0.16
Ukrainian.....	361,496	1.98	Japanese.....	17,856	0.10
Italian.....	339,626	1.86	Lithuanian.....	14,997	0.08
Netherlands.....	170,177	0.93	Flemish.....	14,304	0.08
Indian and Eskimo.....	166,531	0.91	Lettish.....	14,062	0.08
Polish.....	161,720	0.89	Estonian.....	13,830	0.08
Magyar.....	85,939	0.47	Syrian and Arabic.....	12,999	0.07
Yiddish.....	82,448	0.45	Romanian.....	10,165	0.06
Chinese.....	49,099	0.27	Icelandic.....	8,993	0.05
Finnish.....	44,785	0.25	Gaelic.....	7,533	0.04
Russian.....	42,903	0.24	Welsh.....	3,040	0.02
Slovak.....	42,546	0.23	Other.....	48,758	0.27
Greek.....	40,455	0.22			
Norwegian.....	40,054	0.22	Canada.....	18,238,247	100.00

Subsection 10.—Households and Families

1966 Census data on households and families were not available at the time this Chapter was prepared. Figures available at the time of going to press are given in Appendix II of this volume.

Section 2.—Intercensal Surveys

Intercensal estimates of the population of Canada and of the provinces have many uses. They are necessary to the calculation of costs of certain economic and social legislation. Business, educational and welfare organizations utilize population estimates in planning future development. They constitute a base for vital statistics rates, per capita figures of production and trade, and other analyses. They also have been found useful for estimating labour force and other population characteristics of data collected in sample surveys.

Estimates are constructed for the total population of Canada and for each province and become available about the date to which they apply—June 1 of each year. Population estimates by province are also available on a quarter-year basis. The estimates of population begin with the preceding census counts, to which are added the births of the intervening census year or years and from which the deaths are subtracted; immigrants are added and emigrants subtracted. No complete information is available on emigration. The DBS receives yearly from the United States the number of persons who gave Canada as country of last permanent residence before entering the United States as immigrants (see Chapter IV on Immigration and Citizenship, Part I, Section 3) and from the Registrar-General of Britain the number of emigrants from Canada arriving by sea to take up permanent residence in that country. Such data, however, are not available from other countries but, as indicated by partial data from United Nations sources, the proportion of total emigrants to all other countries is small. Family allowances statistics showing the number of migrant families by province are used in estimating interprovincial shifts in population (see Table 3, p. 192).

The following statement shows the data used in preparing the revised population estimates for the years 1957 to 1965 and the annual estimates for 1967. The next succeeding census serves as a basis for revision of the annual estimates of each intercensal period.

Year	Population at June 1	From June 1 to May 31 of Next Year			
		Births ¹	Deaths ¹	Immigrants	Residual ²
	No.	No.	No.	No.	No.
1956 Census.....	16,081,000	461,000	132,000	255,000	55,000
1957.....	16,610,000	471,000	138,000	194,000	57,000
1958.....	17,080,000	474,000	139,000	116,000	48,000
1959.....	17,483,000	477,000	138,000	106,000	58,000
1960.....	17,870,000	479,000	141,000	89,000	59,000
1961 Census.....	18,238,000	472,000	143,000	70,000	54,000
1962.....	18,570,000	471,000	146,000	79,000	56,000
1963.....	18,896,000	459,000	144,000	102,000	58,000
1964.....	19,235,000	442,000	148,000	121,000	61,000
1965.....	19,571,000	404,000	150,000	166,000	49,000
1966 Census.....	20,015,000	382,000	149,000	214,000	57,000
1967.....	20,405,000	..	..	..	..

¹ Final figures used where available and registrations substituted for the remaining period.

² Mainly emigration.

21.—Annual Estimates of Population, by Province, as at June 1, 1951-67

NOTE.—At every census the previous post-censal estimates, made at June 1 each year, are adjusted to the newly recorded population figures. Figures for 1951, 1956, 1961 and 1966 are census figures. Figures for 1867-1904 will be found in the 1936 Year Book, p. 141; for 1905-30 in the 1946 edition, p. 127; for 1931-40 in the 1952-53 edition, p. 143; and for 1941-50 in the 1961 edition, p. 165. Figures for 1867-1951 will also be found in *Census of Canada 1951*, Vol. X.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000
1951.....	361	98	643	516	4,056	4,595	776	832	939	1,165	9	16	14,009
1952.....	374	100	653	526	4,174	4,788	798	843	973	1,205	9	16	14,459
1953.....	383	101	663	533	4,269	4,941	809	861	1,012	1,248	9	16	14,845
1954.....	395	101	673	540	4,388	5,115	823	873	1,057	1,295	10	17	15,237
1955.....	406	100	683	547	4,517	5,266	839	878	1,091	1,342	11	18	15,698
1956.....	415	99	695	555	4,628	5,405	850	881	1,123	1,399	12	19	16,081
1957.....	424	99	701	562	4,769	5,636	862	890	1,164	1,482	12	19	16,610
1958.....	432	100	709	571	4,904	5,821	875	891	1,206	1,538	13	20	17,080
1959.....	441	101	719	582	5,024	5,969	891	907	1,248	1,567	13	21	17,483
1960.....	448	103	727	589	5,142	6,111	906	915	1,291	1,602	14	22	17,870
1961.....	458	105	737	598	5,259	6,236	922	925	1,332	1,629	14	23	18,238
1962.....	468	107	746	605	5,371	6,351	936	930	1,369	1,660	15	25	18,583
1963.....	476	108	751	609	5,481	6,481	949	933	1,403	1,699	15	26	18,931
1964.....	483	109	755	611	5,584	6,631	959	942	1,429	1,745	15	27	19,290
1965.....	488	109	756	615	5,685	6,788	965	950	1,450	1,797	14	27	19,644
1966.....	493	109	756	617	5,781	6,961	963	955	1,463	1,874	14	29	20,015
1967.....	500	109	757	620	5,868	7,149	963	958	1,490	1,947	15	29	20,405

The populations of the provinces classified by sex and age group and the populations of the major cities and metropolitan areas are also estimated as of June 1 each year. Such of these estimates for June 1, 1967 as are available at the time of going to press are given in Appendix II of this volume.

Section 3.—The Native Peoples of Canada

The Indians*

More than 218,000 Canadians are registered as Indians by the Indian Affairs Branch of the Department of Indian Affairs and Northern Development. Registered Indians include all persons descended in the male line from a paternal ancestor of Indian identity, who have chosen to remain under Indian legislation. They are grouped, for the most part, into 558 bands and occupy or have access to 2,274 reserves or settlements having a total area of 6,000,735 acres.

22.—Indian Land in Reserves and Settlements and Number of Bands, by Province, as at Mar. 31, 1967

Province or Territory	Bands	Reserves		Settlements		Total Area
		No.	acres	No.	acres	
Prince Edward Island.....	1	4	2,741	—	—	2,741
Nova Scotia.....	11	38	25,571	—	—	25,571
New Brunswick.....	15	22	37,584	—	—	37,584
Quebec.....	41	26	180,957	13	7,241	188,198
Ontario.....	112	166	1,539,443	5	427	1,539,870
Manitoba.....	51	101	522,289	—	—	522,289
Saskatchewan.....	67	123	1,224,991	—	—	1,224,991
Alberta.....	41	92	1,607,480	4	217	1,607,697
British Columbia.....	190	1,625	844,794	—	—	844,794
Yukon Territory.....	13	—	—	26	4,847	4,847
Northwest Territories.....	16	—	—	29	2,153	2,153
Totals.....	558	2,197	5,985,850	77	14,885	6,000,735

A Departmental census of Indian population taken every five years was discontinued after 1959. The numbers recorded at the three latest censuses—1949, 1954 and 1959—are given in Table 23; the figures for 1961, 1963, 1965 and 1966 are taken from data kept for administrative purposes by the Indian Affairs Branch.

* Revised in the Indian Affairs Branch, Department of Indian Affairs and Northern Development, Ottawa.

23.—Indian Population, by Province, Departmental Censuses 1949, 1954 and 1959 and Estimates as at Dec. 31, 1961, 1963, 1965 and 1966

Province or Territory	1949	1954	1959	1961	1963	1965*	1966
	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island.....	273	272	341	348	374	393	401
Nova Scotia.....	2,641	3,002	3,561	3,746	3,935	4,099	4,189
New Brunswick.....	2,139	2,620	3,183	3,397	3,629	3,824	3,905
Quebec.....	15,970	17,574	20,453	21,793	23,043	24,446	25,083
Ontario.....	34,571	37,255	42,668	44,942	47,260	49,556	50,608
Manitoba.....	17,549	19,684	23,658	25,681	27,778	29,996	31,009
Saskatchewan.....	16,308	18,750	23,280	25,334	27,672	30,086	31,297
Alberta.....	13,805	15,715	19,287	20,931	22,738	24,587	25,396
British Columbia.....	27,936	31,088	36,229	38,616	40,990	43,250	44,260
Yukon Territory.....	1,443	1,568	1,868	2,006	2,142	2,292	2,350
Northwest Territories.....	3,772	4,023	4,598	4,915	5,235	5,569	5,738
Totals.....	136,407	151,558	179,126	191,709	204,796	218,098	224,236

Administration.—Pursuant to the British North America Act, the administration of Indian affairs, which had been under the management of several provinces, came under the jurisdiction of the Government of Canada in 1867. From January 1950 to December 1965, Indian affairs were the responsibility of a Branch of the Department of Citizenship and Immigration. In June 1966 (SC 1966, c. 25) a new Department was formed whereby the Indian Affairs Branch joined with part of the Department of Northern Affairs and National Resources to become the Department of Indian Affairs and Northern Development.

The Indian Affairs Branch is composed of a headquarters staff at Ottawa, eight regional offices and 76 field agencies and district offices. Attached to the headquarters and regional and district offices are specialists in such matters as education, economic development, community development, resource management, social welfare, and engineering and construction. Liaison is maintained with the Medical Services Directorate of the Department of National Health and Welfare, the federal agency concerned with the medical care of Indians.

It is the primary function of the Indian Affairs Branch to administer the affairs of Indians in a manner that will enable them to participate fully in the social and economic life of the country. Underlying administrative duties of the Branch include the management of Indian reserves and surrendered lands, the administration of band funds, estates management, enfranchisement of Indians and the administration of treaty obligations.

Five main objectives are being pursued vigorously in an attempt to assist the Indians in adjusting to the pace of social and economic growth. (1) An accelerated program in education places more emphasis on vocational training, retraining for employment, assistance in placement, adult education, kindergartens and a greater use of provincial schools. (2) The program of industrial and resource development, which in the beginning was a program dependent mainly on the traditional resources of fur, fish, forestry and farming, has been expanded to afford opportunities in new areas through loans and other incentives to foster industrial development on the reserves and to facilitate the relocation of families to places where full-time employment is available. (3) A five-year \$112,000,000 program of reserve improvement has been instituted to provide better housing, water and sewerage systems, electrification and roads. (4) Indian bands, where possible, are being encouraged to operate on the same basis as local municipalities and, where required, grants are given to meet some of the financial needs of the Indian community. (5) Provincial services to Indians are being extended; where bands so desire, discussions are held with the province concerned with respect to the provision of services additional to those already in effect.

Eight Regional Indian Advisory Councils established by the Department provide machinery for effective consultation with representatives of the Indian people. Each Council is composed of eight to 12 Indians elected by the bands in the region, as well as representatives of Indian organizations. The consultation procedure is used to interpret federal policies to the Indians and to obtain the views of the Indians on matters of policy, proposed legislation, federal-provincial agreements, new programs and proposed program changes. The National Indian Advisory Board brings together Indians representing all regions. The Board is made up of 18 representatives named by the Regional Councils on a population basis. Its function is to advise the Department on matters of national importance to the Indian people as distinct from matters of regional interest. In addition, Federal-Provincial Co-ordinating Committees are in operation in most provinces. They meet fairly regularly, some as often as once a month, and perform an important function in guiding the plans and programs of the federal and provincial governments in relation to Indians, and in establishing effective liaison between the governments and a better understanding of their respective objectives, policies and programs.

Education.—This major key to continued Indian progress receives ever-increasing support from Indian parents, from their school committees, from non-federal governments and from professional groups specifically concerned with classroom instruction of Indian pupils. The Indian Affairs Branch maintains and operates a number of schools for Indians but 32,941 of the 64,439 Indian elementary and secondary school pupils attend non-federal schools. Attendance of Indians at non-federal schools has been arranged, for the most part, through agreements between the Branch and individual school boards. In 1964, however, an agreement was concluded with the Province of Manitoba whereby a uniform tuition fee is paid by the Branch for Indian pupils attending schools under the jurisdiction of that province. Manitoba also passed legislation to give Indian children the right to attend any non-federal school.

There are three types of schools operated at the expense of the Federal Government. On many reserves, day schools provide education for children who live at home. Residential schools care for orphaned children, children who come from broken homes and for those who, because of isolation or for other reasons, are unable to attend day schools. A third type of school gives instruction to children confined to hospital. All standard classroom supplies and authorized textbooks are used in federal schools, which follow generally the curriculum of the province in which they are located. Federal financial assistance for pupils attending non-federal schools varies from payment of tuition fees to full maintenance. Promising senior students are awarded scholarships to attend university or vocational school and scholarships are given to those who show promise in the arts.

24.—Enrolment of Indian Pupils in Elementary and Secondary Schools classified by Type of School and by Grade, School Years Ended 1962-67

Year and Type of School	Grade				Special	Absent from Reserve ¹	Total
	Pre-1	1-6	7-8	9-13			
	No.	No.	No.	No.	No.	No.	No.
1961-62.....	3,560	32,746	5,698	3,381	739	1,616	47,740
Federal.....	3,403	24,256	3,361	596	739	—	32,355
Non-federal.....	157	8,490	2,337	2,785	—	1,616	15,385
1962-63.....	3,759	34,035	5,772	3,830	590	1,924	49,910
Federal.....	3,407	24,262	3,004	737	590	—	32,000
Non-federal.....	352	9,773	2,768	3,093	—	1,924	17,910
1963-64.....	3,897	35,453	6,161	4,065	770	4,575	54,921
Federal.....	3,575	24,791	3,089	750	506	—	32,711
Non-federal.....	322	10,662	3,072	3,315	264	4,575	22,210
1964-65.....	4,027	36,229	6,758	4,761	804	4,686	57,265
Federal.....	3,422	24,067	3,292	768	509	—	32,058
Non-federal.....	605	12,162	3,466	3,993	295	4,686	25,207
1965-66.....	3,660	38,929	7,107	5,220	1,013	5,466	61,395
Federal.....	3,093	24,566	3,203	716	462	—	32,040
Non-federal.....	567	14,363	3,904	4,504	551	5,466	29,355
1966-67.....	3,830	40,408	7,453	5,510	1,081	6,157	64,439
Federal.....	2,939	24,672	3,093	427	210	157	31,498
Non-federal.....	891	15,736	4,360	5,083	871	6,000	32,941

¹ Pupils (and parents) living off the reserves in communities with educational facilities usually attend non-federal schools but school records are not maintained by the Indian Affairs Branch.

**25.—Enrolment of Elementary and Secondary Indian Pupils in Non-federal¹ Schools
classified by Grade and by Province, School Year 1966-67**

Grade	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pre-grade 1.....	—	34	—	132	208	38	62	66	215	—	136	891
Grade—												
1.....	2	28	23	220	459	380	532	549	701	122	205	3,221
2.....	—	37	30	197	407	311	473	447	595	70	165	2,732
3.....	1	33	32	204	444	278	389	441	522	41	150	2,535
4.....	1	30	36	168	505	293	350	377	549	42	137	2,488
5.....	—	35	55	187	479	242	325	341	503	70	131	2,368
6.....	3	32	45	347	490	217	242	350	526	56	84	2,392
7.....	3	31	40	255	450	209	261	366	493	66	73	2,247
8.....	5	27	36	232	397	150	192	337	660	36	41	2,113
9.....	1	50	62	169	675	162	271	353	540	21	46	2,350
10.....	—	30	25	99	433	120	140	181	340	15	38	1,421
11.....	1	11	18	78	213	52	92	128	207	5	29	834
12.....	—	4	11	4	143	20	52	105	100	1	13	453
13.....	—	—	—	—	14	—	—	—	11	—	—	25
Special.....	—	1	—	12	113	38	27	132	515	—	33	871
Absent from reserve.....	30	90	50	450	2,500	400	800	400	1,200	20	60	6,000
Totals.....	47	473	463	2,754	7,930	2,910	4,208	4,573	7,677	565	1,341	32,941

¹ Provincial, private and territorial schools.

**26.—Indian Students in Post-Secondary and Vocational Training,
School Year 1966-67**

Course of Study	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
University.....	—	12	9	44	20	6	14	9	34	2	—	150
Teacher training colleges.....	—	—	—	4	9	—	—	—	—	—	—	13
Nurse's training	—	1	1	2	7	—	—	1	3	—	—	15
Vocational.....	—	21	12	250	404	14	222	72	390	43	33	1,461
Upgrading.....	9	93	27	66	282	7	130	19	258	30	—	921
Totals.....	9	127	49	366	722	27	366	101	685	75	33	2,560

Resources and Industrial Development.—In the field of renewable resource development programs for Indians, co-operation between the provinces and the Indian Affairs Branch, both formal and informal, continued during 1966-67. Interest in Canadian wild fur continued but prices declined from 5 p.c. to 35 p.c., with muskrat showing the greatest drop, although there were indications of some improvement late in the season. Commercial fishing operations by Indians continued to yield about 20,000,000 lb. and higher prices were received for certain species, notably yellow pickerel. Products from the forests of the reserves included about 90,000,000 ft. b.m. of lumber, 82,000 cords of pulpwood, 1,000,000 fence posts and 900,000 Christmas trees. During the year, arrangements were made with the provinces to give better fire protection to these valuable forest resources. It should be noted here that assistance is given to Indian forest workers for training purposes so that they may participate to a greater extent in mechanized forest operations off the reserves. Oil and gas produced from Indian reserves during 1966-67 had an estimated value of \$12,000,000 and revenues to Indian bands from royalties, bonuses and rentals for petroleum leases amounted to \$3,114,000. It is known that many Indian reserves have considerable mining potential which is now beginning to be developed.

With the consent and participation of the bands concerned, surveys are being undertaken to establish present and potential use of reserve lands. Where required, Indians are being trained to develop and manage their own lands and are assisted in acquiring the equipment necessary for such development. Greater interest is being shown by many bands in utilizing their reserve lands for industrial and commercial purposes and the development of resources on or near reserves is leading to the formation of co-operatives and other processing facilities at more remote reserves. The adaptation of Indian people to Canadian industrial and business life is encouraged, in their reserve communities, by financial and professional help in operating small businesses.

In 1965-66 (latest figures available), Indian people produced about \$1,200,000 worth of handicraft items for sale and for their own use. Interest in their traditional crafts and expanding markets is bringing about a steady growth in this important industry and encouragement is given by the Indian Affairs Branch which maintains a marketing and advisory service, conducts national promotional programs and gives technical and financial assistance. Many Indian people have established successful enterprises based on the production and sale of arts and crafts.

Community Development.—The Community Development Program launched by the Indian Affairs Branch in 1964 has been instrumental in much closer involvement of the Indian people in the management of their own affairs. In their efforts to accept such responsibility, many Indian bands across the country are developing their own municipal type of administration. Forty-eight community development workers hired by the Indian Affairs Branch are assisting and encouraging the Indian people to plan their own future. A Grants-to-Bands Program has been initiated to enable bands to gain program experience and to assist them financially. The cost of the program increased from \$66,892 in 1965-66 to \$445,300 in 1966-67.

Federal-Provincial Community Development Agreements to extend provincial services to the Indian people have been signed with the Provinces of Ontario and Alberta and, as in the past, provincial services have been supplied to the Indian people through informal arrangements in other parts of Canada. In general, under these agreements and informal arrangements, provincial services are available to the Indian people, with the cost shared on a population basis where both Indians and non-Indians are involved.

A program was started in 1965 to develop and perpetuate Indian culture through encouraging Indian fine arts and crafts, literature, dancing, folk songs and related activities. Incentives include grants, subsidies and scholarships to individuals, groups and organizations for the development of their creative and performing talents.

Physical Development of Reserves.—Early in 1966 a plan was announced by the Federal Government for the expenditure of \$112,000,000 over a five-year period for the physical improvement of Indian reserves. The program provides for assistance for housing, safe water supply, sanitation facilities, electrification of homes and improved roads in Indian communities. Following a study of housing conditions on reserves, completed in February 1965, it was indicated that there was a need for 12,000 new homes in the five-year period. The objective of the program is to build these homes with about \$75,000,000 in public funds in conjunction with band funds and personal contributions; 1,769 houses were constructed in 1966-67 and the objective for 1967-68 is 1,959 houses. Some \$10,000,000 will be spent to supply safe drinking water and proper sewage disposal and a rural electrification program is being undertaken, using public utilities wherever possible, at a cost of about \$7,000,000. The remainder will go toward providing better roads. Expenditures on these projects during 1967-68 will amount to approximately \$21,178,000.

Welfare.—The provision of general welfare assistance and services to indigent Indians is an essential factor in assisting them to raise their social and economic status. The welfare program administered by the Indian Affairs Branch includes public assistance (food, clothing and shelter) to dependent Indians and certain categories of non-Indians

living on reserves, care and maintenance of children and adults, and rehabilitation services for physically and/or socially handicapped Indians. Since January 1965, the Branch has adopted the same rates of assistance and the same eligibility conditions as apply to other recipients of public assistance in the Northwest Territories, British Columbia, Alberta, Saskatchewan, Manitoba and Ontario. The scale of food assistance established by the Branch continues in Quebec and the Maritime Provinces.

As there is no specific federal welfare legislation in respect to Indians, the Indian Affairs Branch relies on provincial welfare legislation and provincially accredited welfare agencies for the enforcement of such legislation. In the field of child welfare, the Federal Government has entered into agreement with 25 children's aid societies in Ontario whereby Indian children may receive the same services as non-Indians in accordance with provincial child welfare legislation. There are similar agreements with the Governments of Manitoba and Nova Scotia. The Indian Affairs Branch assumes financial responsibility for both the administrative and maintenance costs of Indian children who are placed in the care of such agencies. Some provinces provide services on a voluntary basis and, by informal arrangements, the Federal Government pays the cost of maintenance of children placed in foster homes or institutions. Where such services are not available, Indian Affairs Branch staff, with the consent of parents or guardians, arrange for care of neglected children in foster homes or institutions. The Branch provides maintenance and care in homes for the aged and other institutions for physically and socially handicapped adults who do not require active medical treatment.

In general, provincial rehabilitation programs are extended to handicapped Indians on the same basis as to non-Indians. Under separate agreements with the Alberta Tuberculosis Association, the Saskatchewan Society of Crippled Children and Adults and the Manitoba Sanatorium Board, the Federal Government assumes financial responsibility for full maintenance and tuition on behalf of Indian students participating in upgrading and social orientation programs in these provinces. The Federal Government is negotiating cost-sharing agreements with provinces to provide Indian residents with the full range of welfare programs administered by provincial governments. A welfare agreement between the Government of Ontario and the Federal Government allows for the inclusion of Indians in the established welfare program of that province.

In addition to the extensive welfare program for Indians financed and administered by the Indian Affairs Branch, welfare services and social benefits available to Indians in Canada include: (1) programs under which Indians are eligible for such categorical benefits as family allowances, youth allowances and old age security, administered by the Department of National Health and Welfare; (2) programs financed jointly by federal and provincial governments and administered by provincial governments, such as old age assistance and blind and disabled persons' allowances; and (3) specific programs established by provincial governments—in Ontario, Indian women may receive mothers' allowances and assistance to widows and unmarried women; indigent Indian mothers in Quebec are eligible for needy mothers' allowances; and, upon application, abandoned children and adult Indians in Nova Scotia receive certain benefits in accordance with the Nova Scotia Social Assistance Act.

The Eskimos*

Canada's Eskimo population is growing rapidly. More than 15,000 now live in scattered camps and settlements of 25 to 500 people, mainly in the Northwest Territories but also in Arctic Quebec (3,000), Labrador (1,000) and northern Manitoba (200). The factors of severe climate and isolation complicated the initial problems of ensuring that all Eskimo people have food, access to health care and warm shelter but good progress has now been made in providing for these basic needs. Medical care is the responsibility of

* Prepared by the Information Services Division of the Department of Indian Affairs and Northern Development, in close co-operation with the Director and officers of the Northern Administration Branch.

the Department of National Health and Welfare (see also p. 300); the Department of Indian Affairs and Northern Development provides education, welfare, economic development and municipal services.

Although some Eskimo families still live in hunting camps and take their living from the land, the trend is strongly toward community living centred around the local school, nursing station, trading store and co-operative building. Most Eskimos now live in permanent housing and their acceptance of new ways that are of advantage to them is symbolized by the fact that in some communities the dog-team, traditionally used for transportation, is being replaced by the skidoo.

With changing conditions, education is a vital factor in the lives of the Eskimo people, both young and old. Although only 15 p.c. of Eskimo children of school age were enrolled in school in 1953, the system has expanded to such an extent that in 1966-67 about 3,300 Eskimo children were registered in 61 schools in the Northwest Territories and Arctic Quebec, this number representing 79 p.c. of the Eskimo school-age population. For the most part, children attend school in their home communities up to grade 6 and then go to larger communities for senior grades and for vocational education. When Eskimo children must leave home to continue their education, the Department provides transportation, room and board in pupil residences, clothing and a small weekly allowance. Senior secondary education is available at four high schools in the Northwest Territories, vocational courses at Yellowknife, N.W.T., and pre-vocational courses at Churchill, Man. In many cases, a special curriculum allows older boys and girls with limited academic training to spend half days on academic upgrading and half in occupational classes.

Eskimo students who attain senior matriculation may attend university through a system of loans and grants established by the Government of the Northwest Territories for all territorial residents. Grants cover transportation, tuition and textbooks and loans may be obtained for costs of maintenance. Although there is only one Canadian Eskimo now attending university, others are advancing into senior high school grades and are potential university material in the years immediately ahead.

In the vocational field, those who have adequate academic training may enter trade schools or technical institutes in the provinces or they may take on-the-job training.

Canada's most northern school is located on the northern coast of Ellesmere Island. It serves the Eskimo population of about 72 as a school for adults and children, a community centre and a church and contains teachers' living quarters. Attendance at education classes is enthusiastic and consistent and the children, by standards, are intelligent and adaptable.



There is quite a demand for Eskimo trainees and it is difficult to find enough of them with adequate academic backgrounds to fill all requests. During the past year, 43 Eskimo men, some with families, moved west to the Mackenzie region and northern Alberta to take on-the-job employment as engine drivers and engine maintenance men on the Great Slave Lake Railway. Another 20 men were employed in mining operations at Lynn Lake, Man. Apprenticeship offers another opportunity for training. Apprentice tradesmen with little education take academic upgrading at night and on-the-job training during the day and at intervals are examined on knowledge of their trade in Eskimo. Throughout the North, there are Eskimo men working at various levels of apprentice training, as heavy equipment operators, plumbers, carpenters and mechanics. They hold positions as interpreters and clerks in retail and co-operative stores and in government offices; one young Eskimo man is acting administrator in Coral Harbour. The objective of the Department, in co-operation with other federal departments in the North, is to have 75 p.c. of federal staff positions in the Territories filled by local residents by 1977. In vocational classes, Eskimo girls train as clerical assistants, stenographers, hairdressers, nursing aides and commercial cooks. Both boys and girls who are interested in teaching begin their careers in settlement schools as classroom assistants, dividing the day between academic studies and work with young Eskimo pupils. Special care is given to the development of curriculum for northern schools and guides are prepared for such subjects as trapping, fur preparation and the care and use of firearms and outboard motors. By 1972, the Department expects to have sufficient classrooms and pupil residence accommodation to provide for every child in the Northwest Territories and every Eskimo child in Arctic Quebec. This will require the construction of more than 200 classrooms and the provision of 1,000 beds in pupil residences.

The adult education program is designed to inform those of the older generation who feel themselves cut off from children in school. Much emphasis in this area deals with the terms and maintenance of the new housing program. Although permanent houses were introduced in 1959-60, Eskimo families could afford to pay very little toward housing costs and were forced into unsatisfactory single-room accommodation. Even families who could purchase a small house often could not afford the high cost of fuel, light and water. It became apparent that a public housing program was needed to assist the Eskimo people and, in October 1965, government approval was obtained for a five-year program to supply rental houses, allocated on the basis of family need. Rent is scaled according to income and services include heating, electricity, basic furniture and maintenance. Construction of three-bedroom houses began in 1966 on Baffin Island and in Arctic Quebec and, in the summer of 1967, 197 houses were shipped to Keewatin settlements. Credits are given to tenants in new houses for extra rental payments and for improvement or additions to the houses, thus providing an incentive toward eventual home ownership. To help solve the problem of fuel oil for heat and electricity, bulk storage tanks have been installed in many locations and more are being added each year; in 1967-68 such facilities are scheduled to be built at Arctic Bay, Broughton Island and Grise Fiord. Housing educators and home economists help to organize local housing committees and to interpret the financial agreements and home maintenance to the people.

In Eskimo communities, the Eskimo people are encouraged to assume management of their own affairs through local or regional councils; practical assistance, advice and financial support are given by the Department of Indian Affairs and Northern Development. In 30 communities a development fund acts as a catalyst in social and economic development.

The full range of social services applicable to all Canadians is available to the Eskimo people—family allowances, old age and disability pensions and blind persons' allowances. A child welfare program cares for children who are neglected or whose parents are temporarily unable to care for them. Social assistance provides for persons whose income from employment or hunting is insufficient to meet their needs and those of their dependants. Medical and public health services are provided for Eskimos not included under provincial arrangements and who are unable to provide for themselves (see also

p. 300). Eskimos in hospitals in the south are kept in touch with distant family members through tape-recorded messages and medical progress reports. Interpreter services are provided to hospital staff. When medical treatment is completed the Department of Indian Affairs and Northern Development is responsible for the repatriation of Eskimo patients to their homes. Rehabilitation may include adjustment training in sheltered employment and the adaptation of artificial limbs and equipment.

The base of the economy in Eskimo communities is gradually broadening. A number of successful Eskimo co-operatives have been established by the Industrial Division of the Department, engaging in the production of arctic charr and arctic trout, fur garment manufacturing, logging, lumbering and house construction, and continuing economic surveys are made to pinpoint local resources that have possibilities of development. It is interesting also that, through tourist promotion, increasing numbers of visitors are being attracted to the wide open spaces north of the provinces for sports fishing and hunting. Eskimo sculpture, prints and fine crafts have gained world-wide recognition and bring \$1,000,000 annually to Eskimo artists. Ceramic sculpture, a remarkable new art form, has been added recently to the artistic accomplishments of the people of Rankin Inlet. Art is a major part of the rich heritage of these people and is supported by cultural exchanges of films, radio programs and exhibitions. Literature in the Eskimo language is being collected and a regular publication *Inuitituit*, edited by an Eskimo, is printed in syllabic script and distributed to Eskimo families in the North.

Although many communities are enjoying a greater cash income through the use of local resources and the capacities of their people, the need for the establishment of new industries to provide employment continues to grow. The young people especially, as they leave school, must have opportunities for employment to relieve them of following the traditional harsh and marginal existence on the land. This might be done by giving financial incentives to secondary industry willing to establish in the North. If employment can be provided in this way as well as through primary industry based on mineral resources, the Eskimo population, with its innate ability to live comfortably in the Arctic, can be a tremendous asset to Canada.

Section 4.—Statistics of World Population

World population figures given in Table 27 are from the *United Nations Population and Vital Statistics Report* for April 1967 and, except as otherwise noted, are mid-year estimates for 1965. Area figures are from the *United Nations Statistical Yearbook 1966*.

Estimated Population of the World by Continents.—The following statement presents adjusted estimates of the 1965 mid-year population of the world by continental divisions. These aggregates do not coincide exactly with the sum of the figures for individual countries because they include, in addition, adjustments for over- and under-enumeration, over-estimation, data for categories of population not regularly included in the official figures, and approximations for the countries that have not provided official 1965 data.

<i>Continental Division</i>	<i>Population</i>
	'000
Africa.....	311,000
North America.....	294,000
South America.....	166,000
Asia.....	1,827,000
Europe.....	448,000
Oceania.....	17,500
Union of Soviet Socialist Republics.....	231,000
WORLD TOTAL.....	3,295,000
Commonwealth countries (as at August 1967).....	820,804

27.—Areas and Populations of the Countries or Areas of the World

NOTE.—Status of independency or dependency is as at August 1967. Members of the Commonwealth and countries for which the British or Commonwealth members are responsible (August 1967) are indicated with an asterisk (*).

Continent and Country	Area	Population
	sq. miles	'000
Africa		
SOVEREIGN COUNTRIES		
Algeria.....	919,595	11,871
*Botswana (formerly Bechuanaland).....	219,916	559
Burundi.....	10,747	3,210
Cameroon.....	183,569	5,229
Central African Republic.....	240,535	1,352
Chad.....	495,755	3,307
Congo (Brazzaville).....	132,047	840
Congo, Democratic Republic of.....	905,568	15,627 ¹
Dahomey.....	43,484	2,365
Ethiopia.....	471,778	22,600
Gabon.....	103,347	463
*Gambia.....	4,361	330
*Ghana.....	92,100	7,740
Guinea.....	94,926	3,500
Ivory Coast.....	124,504	3,835
*Kenya.....	224,960	9,365
*Lesotho (formerly Basutoland).....	11,716	838
Liberia.....	43,000	1,070
Libya.....	679,362	1,617
*Madagascar.....	226,658	6,420
*Malawi.....	46,066	3,940
Mali.....	463,950	4,576
Mauritania.....	397,956	1,050
Morocco.....	171,835	13,323
Niger.....	489,191	3,328
*Nigeria.....	356,669	57,500
Rwanda.....	10,169	3,110 ¹
Senegal.....	75,750	3,490
*Sierra Leone.....	27,699	2,290
Somalia.....	246,201	2,500
South Africa, excl. Walvis Bay.....	471,445	17,867
Sudan.....	967,500	13,540
Togo.....	21,622	1,638
Tunisia.....	63,379	4,414
*Uganda.....	91,134	7,551
United Arab Republic.....	386,102	29,600
*United Republic of Tanzania.....	362,820	10,515
Tanganyika.....	361,800	10,179
Zanzibar.....	1,020	536
Upper Volta.....	105,869	4,858
*Zambia.....	290,586	3,710
Non-sovereign Countries		
Angola (Port.).....	481,354	5,154
*British Indian Ocean Territory ² (U.K.).....		24
Cape Verde Islands (Port.).....	1,557	224
Comoro Islands (Fr.).....	838	220
Equatorial Guinea (Sp.).....	10,831	267
Fernando Póo.....	785	72
Rio Muni.....	10,045	195
French Somaliland (Fr.).....	8,494	814
French Southern and Antarctic Territories (Fr.).....	2,918	4
Iní (Sp.).....	579	52
*Mauritius, incl. dependencies (U.K.).....	809	762
Mozambique (Port.).....	302,330	6,956
Portuguese Guinea (Port.).....	13,948	527
Réunion (Fr.).....	969	397
*Rhodesia (U.K.).....	150,333	4,260
*St. Helena, excl. dependencies (U.K.).....	47	5
Ascension and Tristan da Cunha.....	74	1
São Tomé and Príncipe (Port.).....	372	59
*Seychelles (U.K.).....	156	47
South West Africa, incl. Walvis Bay (S.A.).....	318,261	574

For footnotes, see end of table, p. 226.

27.—Areas and Populations of the Countries or Areas of the World—continued

Continent and Country	Area	Population
	sq. miles	'000
Africa—concluded		
Non-sovereign Countries—concluded		
Spanish North Africa (Sp.).....	12	158
Spanish Sahara (Sp.).....	102,703	48
*Swaziland (U.K.).....	6,704	375
America, North		
SOVEREIGN COUNTRIES		
*Barbados.....	166	244
*Canada.....	3,851,809	19,604
Costa Rica.....	19,575	1,433
Cuba.....	44,218	7,631
Dominican Republic.....	18,816	3,624
El Salvador.....	8,260	2,928
Guatemala.....	42,042	4,438
Haiti.....	10,714	4,396
Honduras.....	43,277	2,284
*Jamaica.....	4,232	1,788
Mexico.....	761,604	42,689
Nicaragua.....	50,193	1,655
Panama, excl. Canal Zone.....	29,209	1,246
Canal Zone.....	553	54
*Trinidad and Tobago.....	1,980	975
United States of America.....	3,615,211	194,572
*Antigua.....	171	57
*Dominica.....	290	66
*Grenada.....	133	96
*St. Kitts-Nevis-Anguilla.....	138	60
*St. Lucia.....	238	103
Non-sovereign Countries		
*Bahamas (U.K.).....	4,403	136
*Bermuda (U.K.).....	20	48
*British Honduras (U.K.).....	8,867	106
*Cayman Islands (U.K.).....	100	9
Greenland (Den.).....	840,004	40
Guadeloupe (Fr.).....	687	316
Martinique (Fr.).....	425	321
*Montserrat (U.K.).....	38	14
Netherlands Antilles (Neth.).....	371	208
Puerto Rico (U.S.).....	3,435	2,633
St. Pierre and Miquelon (Fr.).....	93	5
*St. Vincent (U.K.).....	150	87
*Turks and Caicos Islands (U.K.).....	166	7
*Virgin Islands (U.K.).....	59	9
Virgin Islands (U.S.).....	133	43
America, South		
SOVEREIGN COUNTRIES		
Argentina.....	1,072,073	22,352
Bolivia.....	424,165	3,697
Brazil.....	3,286,488	82,222*
Chile.....	292,258	8,591
Colombia.....	439,515	18,068
Ecuador.....	109,484	5,150*
*Guyana.....	83,000	646
Paraguay.....	157,048	2,030
Peru.....	496,224	11,650
Uruguay.....	72,173	2,715
Venezuela.....	352,145	8,722*

For footnotes, see end of table, p. 226.

27.—Areas and Populations of the Countries or Areas of the World—continued

Continent and Country	Area	Population
	sq. miles	'000
America, South—concluded		
NON-SOVEREIGN COUNTRIES		
*British Antarctic Territory ⁸ (U.K.).....	4,618	2
*Falkland Islands (Malvinas) excl. dependencies (U.K.).....	35,135	36
French Guiana (Fr.).....	55,144	335
Surinam (Neth.).....		
Asia		
SOVEREIGN COUNTRIES		
Afghanistan.....	250,000	15,650
Bahrain.....	231	185
*Bhutan.....	18,147	750
Burma.....	261,790	24,732
Cambodia.....	69,898	6,115
*Ceylon.....	25,332	11,232
China (mainland).....	3,691,523	700,000
China (Taiwan).....	13,885	12,429
*Cyprus.....	3,572	594
*India ⁹	1,175,579	483,000
Indonesia, excl. West Irian.....	575,896	104,500
West Irian.....	159,376	800
Iran.....	636,296	24,800
Iraq.....	173,260	8,180
Israel.....	7,992	2,563
Japan.....	142,727	97,960
Jordan.....	37,738	1,976
Korea (excludes area of demilitarized zone).....	84,544	40,477
North Korea.....	46,540	12,100
Republic of Korea.....	38,004	28,377
Kuwait.....	6,178	475
Laos.....	91,429	2,000
Lebanon.....	4,015	2,405
*Malaysia—		
East Malaysia—		
Sabah.....	29,388	526
Sarawak.....	48,342	838
West Malaysia (formerly Malaya).....	50,700	8,039
Maldive Islands.....	115	98
Mongolia.....	604,250	1,104
Muscat and Oman.....	82,000	565
Nepal.....	54,362	10,100
*Pakistan ⁹	365,529	102,876
Philippines.....	115,831	32,345
Qatar.....	8,500	70
Saudi Arabia.....	870,004	6,750
*Sikkim.....	2,744	176
*Singapore.....	224	1,865
Syria.....	71,498	5,300
Thailand.....	198,457	30,591
Trucial Oman.....	32,278	111
Turkey.....	301,382	31,086
In Asia.....	292,261	28,448
In Europe.....	9,121	2,638
Viet-Nam.....	127,242	35,124
North Viet-Nam.....	61,894	19,000
Republic of Viet-Nam.....	65,948	16,124
Yemen.....	75,290	5,000
NON-SOVEREIGN COUNTRIES		
*Aden and the Protectorate of South Arabia (U.K.)—		
Eastern Protectorate (U.K.).....	88,675	320
Federation of South Arabia ¹⁰ (U.K.).....	22,000	785
Aden (U.K.).....	75	240
Western Protectorate (U.K.).....	22,325	560
Bonin Islands (U.S. Military).....	40	4

For footnotes, see end of table, p. 226.

27.—Areas and Populations of the Countries or Areas of the World—continued

Continent and Country	Area	Population
	sq. miles	'000
Asia—concluded		
NON-SOVEREIGN COUNTRIES—concluded		
*Brunei ¹¹	2,226	101
*Hong Kong (U.K.).....	398	3,804
Macau (Port.).....	6	175
Palestine (former mandated territory U.K.).....	10,460	1,912 ²
Gaza Strip.....	146	428
Portuguese Timor (Port.).....	5,763	551
Ryukyu Islands (U.S. military).....	848	931
Europe		
SOVEREIGN COUNTRIES		
Albania.....	11,100	1,865
Andorra.....	175	1
Austria.....	32,374	7,255
Belgium.....	11,781	9,464
Bulgaria.....	42,823	8,200
Czechoslovakia.....	49,371	14,159
Denmark.....	16,620	4,758
Finland.....	130,120	4,612
France (Metropolitan).....	211,208	48,922
Germany—		
Eastern Germany.....	41,661	16,000
Federal Republic of Germany.....	95,743	56,839
East Berlin.....	156	1,100
West Berlin.....	186	2,202
Greece.....	50,944	8,550
Holy See.....	12	1
Hungary.....	35,919	10,148
Iceland.....	39,769	192
Ireland.....	27,135	2,873
Italy.....	116,304	51,576
Liechtenstein.....	61	19
Luxembourg.....	998	331
*Malta.....	122	319
Monaco.....	12	23
Netherlands.....	12,978	12,292
Norway.....	125,182	3,723
Poland.....	120,665	31,496
Portugal, incl. the Azores and Madeira Islands.....	35,510	9,199
Romania.....	91,699	19,027
San Marino.....	24	17
Spain, incl. the Balearic and Canary Islands.....	194,885	31,604
Sweden.....	173,666	7,734
Switzerland.....	15,941	5,945
*United Kingdom of Great Britain and Northern Ireland.....	94,221	54,436
England and Wales.....	58,548	47,763
Northern Ireland.....	5,462	1,469
Scotland.....	50,411	5,204
Yugoslavia.....	98,766	19,508
NON-SOVEREIGN COUNTRIES		
*Channel Islands (U.K.).....	75	114
Faeroe Islands (Den.).....	540	37
*Gibraltar (U.K.).....	2	25
Isle of Man (U.K.).....	227	48
Svalbard and Jan Mayen Islands (Nor.).....	24,101	3 ¹³
Oceania		
SOVEREIGN COUNTRIES		
*Australia, excl. aborigines.....	2,967,894	11,360
*New Zealand.....	103,740	2,640
*Western Samoa.....	1,097	127

For footnotes, see end of table, p. 226.

27.—Areas and Populations of the Countries or Areas of the World—concluded

Continent and Country	Area	Population
	sq. miles	'000
Oceania—concluded		
NON-SOVEREIGN COUNTRIES		
American Samoa (U.S.).....	76	25
*British Solomon Islands (U.K.).....	11,500	137
*Canton and Enderbury (U.K. and U.S.).....	27	4
*Christmas Island (Aust.).....	52	3
*Cocos (Keeling) Islands (Aust.).....	5	1
*Cook Islands (N.Z.).....	90	21
*Fiji Islands (U.K.).....	7,015	464
French Polynesia (Fr.).....	1,544	88
*Gilbert and Ellice Islands (U.K.).....	342	52
Guam (U.S.).....	212	77
*Nauru (Aust., N.Z. and U.K.).....	8	6
New Caledonia (Fr.).....	7,338	91
*New Guinea (Aust.).....	92,160	1,576
*New Hebrides (U.K. and Fr.).....	5,700	63
*Niue (N.Z.).....	100	5
*Norfolk Island (Aust.).....	14	1
Pacific Islands (U.S.).....	687	91
*Papua (Aust.).....	86,100	573
*Pitcairn (U.K.).....	2	4
*Tokelau Islands (N.Z.).....	4	2
*Tonga (U.K.).....	270	73
Wake Island (U.S.).....	3	1
Wallis and Futuna Islands (Fr.).....	77	8
Union of Soviet Socialist Republics		
Union of Soviet Socialist Republics.....	8,649,539	230,600

- ¹ African population only. ² Created Nov. 8, 1965 and comprising Chagos Archipelago (formerly dependency of Mauritius) and the islands of Aldabra, Farquhar and Des Roches (formerly dependencies of Seychelles).
³ Latest official estimate. ⁴ Fewer than 500 persons. ⁵ In 1967 this group acquired a new constitutional status as Associate States; they have full internal self-government but Britain is responsible for defence and external affairs. ⁶ Excluding Indian jungle population. ⁷ Excluding nomadic Indian tribes. ⁸ Created Mar. 3, 1962 and comprising former dependencies of Falkland Islands south of 60° latitude, i.e., the South Orkney Islands, South Shetland Islands and Graham Land, and the sector of Antarctic Continent between longitudes 20° W. and 80° W. ⁹ Excluding Jammu and Kashmir, the final status of which has not yet been determined.
¹⁰ Comprises Aden and 16 of the 17 states of the Western Protectorate. ¹¹ Britain remains responsible for defence and external affairs. ¹² Less than one square mile. ¹³ Inhabited only in winter season.
 Norwegian population only.

CHAPTER IV.—IMMIGRATION AND CITIZENSHIP

CONSPECTUS

	PAGE		PAGE
Part I.—Immigration and Emigration...	227	Part II.—Canadian Citizenship.....	242
SECTION 1. IMMIGRATION POLICY AND ADMINISTRATION.....	227	SECTION 1. THE CANADIAN CITIZENSHIP ACT	242
SECTION 2. IMMIGRATION STATISTICS.....	231	SECTION 2. CANADIAN CITIZENSHIP STATISTICS.....	244
SECTION 3. EMIGRATION STATISTICS.....	241		

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

PART I.—IMMIGRATION AND EMIGRATION*

Section 1.—Immigration Policy and Administration

Policy.—Traditionally, Canada has sought to increase its population through immigration in order to expand the domestic market, reduce per capita costs of administration, stimulate economic activity by providing new skills, ideas and enthusiasm, and support a higher level of cultural independence and creativity. Canadian experience indicates that a substantial volume of immigration is highly desirable.

New population cannot be added haphazardly without regard to their means of subsistence or their effect on Canadian life. Technological change and the development of Canadian society to its present complex state require that, to be able to establish themselves successfully, new settlers must be economically competitive in terms of education, training, skills and personal qualities. Over the years, Canada has endeavoured to acquire immigrants who were adaptable to Canadian life. Such persons, finding familiar institutions in Canada, feel more at home and this assists in their establishment in the new life they find here. Canada makes every effort to sustain the movement of immigrants from countries having like economic, social and political backgrounds. On the other hand, qualified people from other countries can integrate successfully into Canadian society and the immigration Regulations recognize this principle. People anywhere in the world have an opportunity to immigrate to Canada if they demonstrate their suitability for life in this country and are likely to become established without hardship to themselves or disruption to the communities in which they settle.

In addition, Canada has on many occasions since the end of World War II sanctioned the entry of thousands of refugees. This is a humanitarian movement and is tangible evidence of Canada's recognition of its responsibilities in the international community. A conservative estimate of the number of refugees admitted since 1945 is 300,000.

On Oct. 1, 1967, Canada adopted new Immigration Regulations which are to be applied universally; these give more recognition to family relationship than the former Regulations and are more closely attuned to Canada's economic needs. These new

* Sections 1 and 2 of this Part were prepared in co-operation with the Information Service, Department of Manpower and Immigration, Ottawa. The history of immigration and the Immigration Act and Regulations up to the mid-1950s is dealt with in detail in a special article entitled "Developments in Canadian Immigration" appearing in the 1957-58 Year Book at pp. 154-176. Supplementing that material is an article on the "Integration of Postwar Immigrants" at pp. 176-178 of the 1959 edition.

Regulations evolved from the White Paper on Immigration, tabled in the House of Commons on Oct. 14, 1966. The proposals provided, for the first time, uniform standards for the admission of non-dependent relatives sponsored by Canadian citizens, regardless of the immigrant's citizenship or country of residence. On Oct. 20, 1966, a Joint Committee of the Senate and the House of Commons was established to study and report upon the White Paper and upon two earlier reports on immigration matters submitted to Parliament in 1965 and 1966 by Mr. Joseph Sedgwick, Q.C. The Committee considered representations by members of Parliament, representatives of provincial governments, private organizations and other members of the Canadian public during the last months of 1966 and the early months of 1967.

It became evident during the meetings of the Committee that many representatives of the Canadian public had reservations about details of the White Paper proposals. The suggestions offered to the Committee were studied in the Department and in April 1967 the Minister presented new proposals to which the Committee gave its approval.

The new Regulations were authorized by Order in Council dated Aug. 16, 1967 (PC 1967/1616), effective as of Oct. 1, 1967. These Regulations present in detail the principles involved in selection of immigrants, whereas the previous Regulations defined who was admissible to Canada only in very general terms. They also indicate the factors that immigration officers will take into account in assessing potential immigrants and the comparative importance of these factors. The new Regulations formally confirm that Canadian citizens or permanent residents of Canada are entitled to bring their dependants to Canada. The privilege of citizens or permanent residents in applying for other more distant relatives to come to Canada is extended to all areas of the world and new classes of relatives become eligible for this assistance; in the past there were geographical limitations on certain categories of relatives.

The assessment system for potential immigrants is based on the following factors: (1) *Education and Training*—up to 20 assessment units to be awarded on the basis of one unit for each successful year of formal education or occupational training; (2) *Personal Assessment*—up to 15 units on the basis of the immigration officer's assessment of the applicant's adaptability, motivation, initiative and other similar qualities; (3) *Occupational Demand*—up to 15 units if demand for the applicant's occupation is strong within Canada and whether the occupation is skilled or unskilled; (4) *Occupational Skill*—up to 10 units for the professional, ranging down to one unit for the unskilled; (5) *Age*—ten units for applicants under age 35 with one unit deducted for each year over age 35; (6) *Arranged Employment*—ten units if the applicant has a definite job arranged in Canada; (7) *Knowledge of French and English*—up to 10 units, dependent upon the degree of fluency in French and/or English; (8) *Relative*—up to five units if the applicant has a relative in Canada able to help him become established but unprepared or unable to sponsor or nominate him; and (9) *Employment Opportunities in Area of Destination*—up to five units if the applicant intends to go to an area of Canada where there is a generally strong demand for labour.

The new Regulations make a clear distinction between dependants and relatives entering the working force. Thus, in the future, there will be three categories of immigrants—"sponsored dependants", "nominated (non-dependent) relatives", and "independent applicants". A "dependant" is defined for immigration purposes as: husband or wife, fiancé or fiancée; unmarried son or daughter under age 21; parent or grandparent over age 60, or younger if widowed or unable to work; an orphaned brother, sister, nephew, niece or grandchild under age 18. Provision is also made for an adopted child and, where the only dependant is a husband or wife, for the nearest living relative. An application for a dependant will be dealt with irrespective of whether he is in Canada or abroad and irrespective of the financial circumstances of the sponsor. He will be admitted to Canada provided he is in good health and of good character.

Canadian citizens and permanent residents may nominate non-dependent relatives for immigration to Canada. The "nominated relative" category includes son and daughter

over age 21, married son and daughter under age 21, brother or sister, parent or grandparent under age 60, nephew, niece, uncle, aunt and grandchild. The responsibilities of the nominator include willingness and ability to provide accommodation, care and maintenance for the person applied for and to otherwise assist him to become established. The nominator will be required to sign such an undertaking for a period of five years. Because of the assistance provided by the nominator in Canada, the nominee will be assessed on only some of the selection factors—education, personal qualities, occupational demand, age and occupational skill. On the general assumption that a Canadian citizen usually will be better established in Canada than a more recent arrival and hence in a better position to give his relative more assistance, a slightly higher preference will be given to a relative nominated by a Canadian citizen than one nominated by a permanent resident.

To qualify for admission to Canada, an "independent applicant" will normally have to obtain 50 of the 100 assessment units available. However, the new selection system is considerably less rigid than the previous practice. Whereas in the past an individual could have been rejected on account of a single factor, such as lack of education, the new Regulations use a combination of factors in such a way that some of them may compensate for relatively low qualifications in others. The major purpose of the new standards, as it was with the old, is to select immigrants who can make a successful adjustment to life in Canada and thereby contribute to Canada's progress.

The main factors for successful establishment are education, personal qualities and occupational demand. As far as the education of the individual is concerned, the principle of successful educational achievement in the immigrant's home has been adopted since it has been found impracticable to equate educational standards in many countries to Canadian standards. In assessment of his personal qualities, the applicant will be considered as to his chances for success in Canada in terms of his economic establishment and his personal satisfaction as well as on the composition and the attitudes of his whole family. The personal assessment process also includes the function of counselling and the applicant will be informed about the market in different areas of Canada for his skills and about the difficulties he may encounter in adjusting to the Canadian way of life. The demand in Canada for the applicant's skill or occupation is given due importance. The Department is responsible for immigration but is equally concerned with manpower and is obliged to discourage immigration for the applicant with an occupation for which there is little or no demand in this country. In cases where there are shortages of labour in certain industries, Canadian employers or provincial officials may interview abroad candidates for such industries and channel them to the Department's visa offices but in these cases, as well as in any others, the candidates must comply with the new selection standards.

The other six selection criteria have individually lesser weight but in total are equal to the three main factors. In considering adaptability in a new environment, occupational skill is important. A person's skill is usually acquired at a price in financial terms. It is an investment and the higher the investment usually the higher the skill and thus a greater gain to Canada. Age must be taken into account when considering adaptability in a new environment. On average, younger people adjust more easily and for this reason the age group up to 35 years is assigned the maximum number of assessment units, with one unit deducted for each year over 35. However, an older person will not be refused on this factor if he has other assets such as highly developed skills which are in demand in Canada. Credit will be given to an applicant who has a firm commitment from a Canadian employer because this will assist his economic establishment during the initial period after arrival. Economic and social adjustment of a new immigrant is greatly facilitated by knowledge of the languages of his adopted country. As a consequence, units of assessment are given to applicants for the degree of their fluency in either English or French or both. An applicant whose mother tongue is other than English or French may be given some credit for even a partial knowledge of either or both of the two languages. In fact, it is possible that such an applicant may obtain more assessment units on the language factor than a unilingual applicant who speaks only English or French. If an applicant has a

relative in Canada who is able to help him become established, credit will be given for this factor since the presence of a relative is a definite asset in the adjustment process.

No one will be compelled to go to any particular area in Canada but, if a prospective immigrant is counselled by an immigration officer to go to an area which offers the best opportunity for him and is prepared to accept that advice, he will be awarded the units appropriate for that area. If the over-all demand for labour is higher in any one area in Canada than in others, the total assessment of the immigrant destined to that area will reflect that high demand. The assessment of individual areas in Canada as to their over-all demand for labour, and the assessment of national demand for individual occupations will be conducted on a continuous basis so that selection officers overseas will be in possession of up-to-date information at all times.

An innovation in the new Regulations is the provision for the admission to Canada for permanent residence of persons who have come as visitors. However, since open acceptance of applications from visitors would be inefficient and would give an undue advantage to some people, a visitor is not given any credit for arranged employment in Canada, so that he must qualify on other factors. Conditions of entry must have been observed and, in particular, the applicant must not have taken employment in Canada if not authorized to do so. Foreign students studying at recognized Canadian institutions will be regarded as any other visitors applying for permanent residence in Canada. However, if foreign students are under an obligation to their government to return to their own country, they will not be permitted to apply for permanent residence in Canada. Applications for permanent residence from seamen on shore leave will not be accepted under the new Regulations.

A sponsor whose application for a dependant is refused will have the right to appeal to the newly constituted independent Immigration Appeal Board. On July 6, 1966, the Minister introduced a Bill in the House of Commons "to make provision for appeals to an Immigration Appeal Board in respect of certain matters relating to immigration". The Bill was passed in the House of Commons on Mar. 1 and given Royal Assent on Mar. 22, 1967. The Act provides for a new Immigration Appeal Board which is a Court of Record entirely separate from the Department and with the authority to enforce its orders. The Act, in addition to providing for appeals against deportation orders, also makes provision for sponsors in Canada to appeal to the Board against the refusal of admission to relatives overseas. The categories of relatives whose refusal may be appealed will be designated by the Governor in Council.

Administration.—The Canada Immigration Division of the Department of Manpower and Immigration administers the Immigration Act and Regulations. The creation of the new Department of Manpower and Immigration, which came into being officially on Oct. 1, 1966, involved some reorganization of the Immigration Division, primarily because a former important part of the activities of the Division, that of the placement and settlement of immigrants in employment in Canada, was to be transferred to the Canada Manpower Division of the Department. This transfer of duties, together with the immigration officers who were trained placement and settlement specialists, took place in February 1967.* The reorganized Immigration Division has three main Branches: (1) the Planning Branch, responsible for the development of the immigration program, for the evaluation and co-ordination of the factors affecting the program, and for the analysis of the results achieved; (2) the Foreign Branch, responsible for the selection of immigrants and for most other activities of the Division outside of Canada; and (3) the Home Branch, responsible for the transportation, admission and reception of, and assistance to, immigrants

* See Chapter XVIII, Section 1, Subsection 1.

on their arrival in Canada, the enforcement of the Immigration Act and Regulations and the counselling of exceptional problem cases. The Home Branch looks after all matters affecting the welfare of immigrants and their integration into the Canadian community except for their placement or settlement in employment.

There are 32 visa offices located abroad at London, Liverpool, Leeds, Bristol, Birmingham, Glasgow, Belfast, Dublin, Paris, Bordeaux, Marseille, Brussels, Berne, The Hague, Copenhagen, Cologne, Berlin, Hamburg, Munich, Stuttgart, Vienna, Stockholm, Lisbon, Madrid, Rome, Milan, Athens, Cairo, Tel Aviv, New Delhi, Tokyo and Hong Kong. The Regional Immigration Headquarters for Continental Europe in Geneva is an administrative centre which does not issue visas. Four offices in the United States—at New York, Chicago, San Francisco and Denver—and a sub-office at Los Angeles, furnish information and counselling but do not issue visas. In addition, the services of immigration officers are available in Canberra, Kingston (Jamaica), Beirut, Rawalpindi, Manila and Port-of-Spain, and information offices, visited at intervals by immigration officers based in Stockholm, are maintained in Oslo and Helsinki. Personnel at all posts are kept in close touch with economic conditions in Canada and thus are able to advise immigrants regarding their prospects for successful establishment. Examination of immigrants and visitors is carried out at 552 ports of entry on the Canadian coasts, at points along the International Boundary and at certain airports and inland offices.

Section 2.—Immigration Statistics

Table 1 shows the number of immigrants arriving in Canada in each year since 1913, the peak year of immigration into the country. Table 2 shows the number and distribution of immigrants in the population of Canada on the latest decennial census date, June 1, 1961, by period of arrival.

1.—Immigrant Arrivals, 1913-66

NOTE.—Figures for 1852-93 are given in the 1942 Year Book, p. 153, and for 1894-1912 in the 1948-49 edition, p. 175.

Year	Arrivals	Year	Arrivals	Year	Arrivals	Year	Arrivals	Year	Arrivals
	No.		No.		No.		No.		No.
1913.....	400,870	1924.....	124,164	1935.....	11,277	1946.....	71,719	1957.....	282,164
1914.....	150,484	1925.....	84,907	1936.....	11,643	1947.....	64,127	1958.....	124,851
1915.....	36,665	1926.....	135,982	1937.....	15,101	1948.....	125,414	1959.....	106,928
1916.....	55,914	1927.....	158,886	1938.....	17,244	1949.....	95,217	1960.....	104,111
1917.....	72,910	1928.....	166,783	1939.....	16,994	1950.....	73,912	1961.....	74,680
1918.....	41,845	1929.....	164,993	1940.....	11,324	1951.....	194,391	1962.....	74,586
1919.....	107,698	1930.....	104,803	1941.....	9,329	1952.....	164,498	1963.....	93,151
1920.....	138,824	1931.....	27,530	1942.....	7,576	1953.....	168,868	1964.....	112,606
1921.....	91,728	1932.....	20,591	1943.....	8,504	1954.....	154,227	1965.....	146,758
1922.....	64,224	1933.....	14,382	1944.....	12,801	1955.....	109,646	1966.....	194,743
1923.....	133,729	1934.....	12,476	1945.....	22,722	1956.....	164,857		

Table 2 shows that, according to census figures, 1,507,116 persons reported that they had come to Canada between Jan. 1, 1946 and June 1, 1961. These immigrants constituted about 75 p.c. of the total number of immigrants who arrived in Canada during that period. According to the records of the Department of Manpower and Immigration, 2,033,598 persons entered Canada as immigrants during the period 1946-61. The difference between this total and the 1,507,116 postwar immigrants reported in the 1961 Census, amounting to 526,482 persons, represents the losses due to death and emigration among the postwar immigrant arrivals up to June 1961. Since this difference is arrived at by comparing

statistics derived from two different sources, it must be taken as only an approximate measure of these losses. It is estimated that deaths of immigrants arriving since 1946 would not exceed 86,000 by June 1961. Hence it would appear that roughly 440,000 emigrated in the period between January 1946 and June 1961, or slightly more than one fifth of the total arrivals over this period.

The 440,000 postwar immigrants who appear to have emigrated from Canada up to June 1961 would thus constitute a little over half the total estimated emigration from Canada since 1946, according to data on emigration used in the preparation of annual population estimates. In this connection it might be mentioned that a substantial element in total Canadian emigration is the movement of Canadian-born persons to the United States, some 387,000 entering the United States as immigrants between July 1946 and July 1961 according to the United States Immigration Service records (see p. 241).

2.—Immigrant Population, by Period of Immigration and by Province, Census 1961

Province or Territory	Before 1930	1931-40	1941-45	1946-50	1951-55	1956-61 ¹	1946-61 ¹	Total
	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	1,356	339	338	1,317	1,230	1,689	4,236	6,269
Prince Edward Island.....	1,170	217	117	439	452	597	1,488	2,992
Nova Scotia.....	14,752	2,165	1,079	4,434	5,281	6,457	16,172	34,168
New Brunswick.....	10,496	1,451	886	3,184	2,887	4,379	10,450	23,283
Quebec.....	121,164	14,202	5,321	38,452	87,873	121,437	247,762	388,449
Ontario.....	462,705	41,959	15,190	169,044	323,528	340,731	833,303	1,353,157
Manitoba.....	101,758	4,259	1,483	15,925	21,134	25,439	62,498	169,998
Saskatchewan.....	116,192	3,170	1,034	8,124	9,497	11,372	28,993	149,389
Alberta.....	156,324	8,446	2,420	25,326	48,263	47,970	121,559	288,749
British Columbia.....	229,790	11,300	4,498	37,296	65,947	74,301	177,544	423,132
Yukon Territory.....	867	81	42	265	626	833	1,724	2,714
Northwest Territories.....	425	114	37	178	472	737	1,387	1,963
Canada.....	1,216,999	87,703	32,445	303,984	567,190	635,942	1,507,116	2,844,263

¹ Up to the date of the Census, June 1, 1961.

Recent Immigration.—The extent of immigration to Canada in any period is affected both by domestic conditions and by conditions abroad. However, these influences are seldom immediately decisive. News of good economic conditions in Canada predisposes people in favor of this country but, because the immigration process usually takes several months, actual immigration is not always fully coincidental with the economic situation, so that immigration may at times be slight in good years but appear unduly heavy in less buoyant periods. The time-lag caused by selection, medical examination and documentation is unavoidable. Transportation is often another delaying factor and to these considerations must be added the effect of seasonal unemployment in Canada, which tends to discourage immigration during the months from November to April.

In the early 1960s, the Canadian economy experienced a levelling-off, and even a retrenchment in some areas, from its previous high level of activity and this was reflected in the country's intake of immigrants. However, this interval of economic adjustment lasted only a short time and by 1963 immigration had again risen to more normal levels. In that year 93,151 immigrants came to Canada compared with 74,586 the year before. Promotional efforts abroad were intensified. A resident immigration officer was posted to Madrid to service immigration applications in Spain and area offices were established to enable teams of immigration officers to make regular visits to adjoining countries in an effort to broaden the base from which immigrants were selected.

In the following year, the number of immigrants admitted to Canada totalled 112,606, a 21-p.c. increase over 1963. By nationality, British immigrants constituted the largest

number, followed by Italians and citizens of the United States. This increase was attributable to two principal factors—an intensification of promotional and recruiting activities in the main source countries, and an expansion of examination and selection facilities into areas from which Canada received few immigrants before the establishment of the immigration Regulations that came into effect early in 1962. The achievements of 1964 were accomplished despite strong competition in Europe for skilled and educated workers and new postwar levels of prosperity. It is, therefore, of considerable significance that, of the 56,190 immigrants who entered the Canadian labour force in that year, 59 p.c. were in the more skilled categories; 13,177 were in the managerial and professional categories compared with 10,799 in 1963. In 1964, a resident immigration officer was posted to Marseille to expand facilities in France.

In 1965, Canada's demand for skilled immigrant workers once again exceeded the supply. Although skilled workers could be absorbed in large numbers, the need for unskilled workers diminished and for this reason the Immigration Branch continued to emphasize the selection of immigrants possessing professional or other qualifications that would enable them to become established soon after their arrival. Most of the traditional immigrant source countries, particularly in Europe, continued to enjoy buoyant economic conditions. Skilled workers were much in demand and there was strong competition among immigration countries for a share of those skilled workers who were interested in emigration. The number of immigrants admitted to Canada totalled 146,758, a 30-p.c. increase over the preceding year. Immigrant workers who arrived from abroad numbered 74,195, of whom 67 p.c. were in the more skilled categories; those in the managerial and professional categories numbered 18,103. As in the previous year, the major source countries were Britain, Italy and the United States. During 1965, Canadian immigration facilities abroad were substantially improved and expanded. Resident officers were posted to Milan, Italy, and Bordeaux, France, and offices at five other locations were modernized and refurnished. The decision was also made to establish a Regional Headquarters for Continental Europe in Geneva, Switzerland.

The rising trend of immigration continued in 1966. In all, 194,743 immigrants came to Canada in that year, an increase of 32 p.c. over 1965. Immigrant workers numbered 99,210, of whom 74 p.c. were in the more skilled categories compared with 67 p.c. in 1965. Those in managerial or professional categories numbered 25,929, which was almost 43 p.c. above 1965 and nearly double the 1964 figure. Of the total of 194,743 immigrants, 63,291 came from Britain, 31,625 from Italy and 17,514 from the United States. There were significant developments in immigration administration and policy during the year. Briefly, as a result of the reorganization of several Federal Government departments, the Immigration Branch of the former Department of Citizenship and Immigration was amalgamated with large segments of the Department of Labour to form the new Department of Manpower and Immigration. The principal advantages to this alignment are that immigration is now more closely identified with national manpower policies, and the extensive services of the Canada Manpower Division in counselling, placing and assisting workers are now fully available to new immigrants (see pp. 230-231). A new policy for dealing with requests from visitors for permanent residence in Canada was introduced with good effect. This policy is now included in the new immigration Regulations brought into effect on Oct. 1, 1967 (see pp. 227-230).

Analyses of the content of the immigration movement during the years 1964, 1965 and 1966 are given in Tables 3 to 10, and the numbers of persons deported from Canada for various reasons for the same years in Table 11.

Table 3 classifies immigrant admission by country of last permanent residence. During the three-year period shown, 33.4 p.c. of the immigration flow came from Britain and the Republic of Ireland, 42.5 p.c. from Continental Europe, 8.9 p.c. from the United States and 15.2 p.c. from all other countries.

3.—Immigrant Arrivals by Country of Last Permanent Residence, 1964-66

NOTE.—Comparable figures from 1946 are given in the corresponding table of previous Year Books beginning with the 1951 edition; figures in less detail for 1939-45 appear in the 1950 edition, p. 186.

Country	1964	1965	1966	Country	1964	1965	1966
No.	No.	No.	No.	No.	No.	No.	No.
Commonwealth—				Europe—concluded			
British Isles—				Germany.....	5,992	8,927	9,263
England.....	20,481	28,820	43,561	Greece.....	4,391	5,642	7,174
Northern Ireland.....	1,847	1,934	2,400	Hungary.....	424	453	448
Scotland.....	6,698	8,363	16,077	Italy.....	19,297	26,398	31,625
Wales.....	236	682	1,192	Netherlands.....	2,029	2,619	3,749
Lesser Isles.....	17	58	61	Poland.....	1,944	1,975	1,678
Totals, British Isles....	29,279	39,857	63,291	Portugal.....	5,309	5,734	7,930
Australia.....	1,855	2,150	3,329	Scandinavian Countries—			
Hong Kong.....	2,490	4,155	3,710	Denmark.....	717	859	1,097
India.....	1,154	2,241	2,233	Other.....	604	692	1,121
Malta.....	1,162	1,055	569	Spain.....	674	837	1,161
New Zealand.....	448	561	728	Switzerland.....	1,446	2,169	2,982
West Indies.....	2,072	2,926	3,746	Yugoslavia.....	1,187	1,230	1,502
Other Commonwealth.....	1,866	2,134	2,886	Other.....	275	330	442
Totals, Commonwealth.	40,326	55,079	80,492	North America—¹			
Republic of Ireland.....	680	861	1,774	Mexico.....	136	147	114
Africa¹.....	1,598²	1,613³	1,210⁴	United States.....	12,565	15,143	17,514
Asia¹.....	760	2,157	3,878	Other.....	174	221	291
Europe—¹				South America¹.....	1,643	1,862	1,976
Austria.....	1,099	1,472	2,313	Middle East—¹			
Belgium.....	989	977	1,385	Egypt.....	1,855	1,378	1,854
Finland.....	353	504	540	Israel.....	871	822	1,488
France.....	4,542	5,225	7,872	Lebanon.....	347	602	889
				Other.....	379	825	976
				Other Countries.....	—	5	5
				Totals, All Countries.....	112,606	146,758	194,743

¹ Excludes Commonwealth countries.
545 from the Republic of South Africa.

² Includes 417 from the Republic of South Africa.
⁴ Includes 892 from the Republic of South Africa.

³ Includes

Of the immigrant arrivals in 1966, 39.3 p.c. were born in Commonwealth countries or in the Republic of Ireland compared with 36.1 p.c. in 1965 and 35.6 p.c. in 1964, 21.8 p.c. were born in Italy or Greece, 8.3 p.c. in Germany, France or the Netherlands, 7.3 p.c. in the United States, 5.5 p.c. in Spain or Portugal and 3.4 p.c. in Poland or Yugoslavia.

4.—Immigrant Arrivals, by Country of Birth, 1964-66

NOTE.—Figures from 1942 are given in the corresponding table of previous Year Books beginning with the 1948-49 edition.

Birthplace	1964	1965	1966	Birthplace	1964	1965	1966
No.	No.	No.	No.	No.	No.	No.	No.
Commonwealth—				Commonwealth—concluded			
British Isles—				Other Commonwealth.....	3,303	3,399	2,256
England.....	17,383	24,233	37,447	Totals, Commonwealth.....	39,096	51,514	75,019
Northern Ireland.....	1,993	2,143	2,668	Republic of Ireland.....	1,048	1,443	2,538
Scotland.....	7,145	8,838	16,471	Africa¹.....	1,608	1,442	2,894
Wales.....	750	1,127	1,722	Asia—¹			
Lesser Isles.....	48	64	75	China.....	2,168	4,552	2,910
Totals, British Isles....	27,319	36,405	58,383	Japan.....	151	221	503
Australia.....	1,656	2,039	2,735	Other.....	647	2,052	4,509
Canada.....	958	1,043	1,043	Europe—¹			
India.....	1,642	3,040	3,561	Austria.....	680	803	907
Malta.....	1,184	1,124	627				
New Zealand.....	456	620	773				
West Indies.....	2,578	3,844	5,641				

¹ Excludes Commonwealth countries.

4.—Immigrant Arrivals, by Country of Birth, 1964-66—concluded

Birthplace	1964	1965	1966	Birthplace	1964	1965	1966
No.	No.	No.	No.	No.	No.	No.	No.
Europe—continued				Europe—concluded			
Belgium.....	719	696	972	Other.....	474	548	788
Czechoslovakia.....	268	385	523	Middle East—¹			
Denmark.....	723	873	1,091	Egypt.....	1,946	1,653	2,231
Finland.....	408	584	631	Israel.....	439	490	885
France.....	3,143	3,396	5,498	Lebanon.....	299	492	721
Germany.....	4,771	6,964	7,263	Turkey.....	619	915	981
Greece.....	4,631	5,972	7,567	Other.....	153	561	404
Hungary.....	973	1,144	1,360	North America—¹			
Italy.....	20,578	28,118	33,492	Mexico.....	127	147	130
Netherlands.....	1,893	2,327	3,385	United States.....	9,810	12,017	14,148
Norway.....	282	324	526	Other.....	240	279	211
Poland.....	2,371	2,477	2,244	South America¹			
Portugal.....	5,700	6,505	8,812	.....	736	977	2,041
Romania.....	425	424	454	Other			
Spain.....	1,147	1,419	1,882	.....	9	11	375
Switzerland.....	795	1,231	1,798	Grand Totals			
Union of Soviet Socialist Republics ²	413	543	635	112,606	146,758	194,743	
Yugoslavia.....	3,116	3,259	4,417				

¹ Excludes Commonwealth countries.² In both Europe and Asia.

Immigrants of Continental European origin comprised 50.4 p.c. of the influx during 1966 and those of British origin made up 36.6 p.c. Proportions of Continental Europeans in 1965 and 1964 were 54.9 p.c. and 57.6 p.c., respectively, and of British origin 32.2 p.c. and 32.1 p.c. in the same years.

5.—Immigrant Arrivals, by Origin, 1964-66

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1939 edition.

Origin	1964	1965	1966	Origin	1964	1965	1966
No.	No.	No.	No.	No.	No.	No.	No.
British—				Continental European—concluded			
English.....	21,336	28,810	42,612	Scandinavian—			
Irish.....	5,229	6,237	8,338	Danish.....	852	1,057	1,292
Scottish.....	8,637	10,692	18,617	Icelandic.....	17	9	15
Welsh.....	997	1,482	1,938	Norwegian.....	480	649	938
Totals, British	36,199	47,221	71,505	Swedish.....	452	545	720
Continental European—				Spanish ¹	1,642	1,909	2,582
Albanian.....	29	31	38	Swiss ²	833	1,194	1,711
Austrian.....	751	819	941	Ukrainian.....	202	283	288
Belgian.....	723	675	898	Yugoslavia ¹	3,116	3,220	4,322
Bulgarian.....	35	75	56	Totals, Continental European	64,836	80,643	98,289
Czech and Slovak.....	237	306	503	Other—			
Estonian.....	57	65	100	Arabian.....	214	263	533
Finnish.....	476	656	696	Armenian.....	855	887	1,174
French.....	4,044	4,408	6,675	Chinese.....	3,210	5,234	5,178
German.....	7,091	9,832	10,699	East Indian.....	2,077	3,491	4,094
Greek.....	5,200	6,730	8,394	Indian (American).....	28	32	—
Hungarian.....	1,054	1,323	1,594	Japanese.....	163	219	535
Italian.....	21,508	29,360	35,107	Lebanese.....	635	763	1,005
Jewish.....	3,113	2,816	3,017	Mexican.....	27	55	59
Latvian.....	67	97	131	Negro.....	2,627	4,065	5,870
Lithuanian.....	84	95	126	Syrian.....	173	241	265
Luxembourg.....	13	11	24	Turkish.....	341	527	546
Maltese.....	1,200	1,133	643	Unspecified.....	1,216	3,117	5,690
Netherlander.....	2,464	2,999	4,132	Totals, Other	11,571	18,894	24,949
Polish.....	2,621	2,862	2,715	Grand Totals	112,606	146,758	194,743
Portuguese.....	6,109	7,069	9,525				
Romanian.....	165	155	126				
Russian.....	201	260	281				

¹ Includes a few minor groups, such as German, French, Italian, etc.² Reported as Swiss origin but evidently one of the constituent races

6.—Immigrant Arrivals, by Citizenship, 1964-66

NOTE.—Figures from 1930 are given in the corresponding table of previous Year Books beginning with the 1936 edition.

Country of Citizenship	1964	1965	1966	Country of Citizenship	1964	1965	1966
No.	No.	No.	No.	No.	No.	No.	No.
Australia.....	1,896	2,322	3,233	Netherlands.....	1,989	2,525	3,671
Austria.....	658	770	856	New Zealand.....	457	642	784
Belgium.....	675	645	875	Norway.....	268	317	524
Britain and colonies.....	32,773	42,785	65,176	Pakistan.....	307	470	672
Central America.....	21	25	41	Poland.....	1,995	2,027	1,758
Ceylon.....	78	141	180	Portugal.....	5,721	6,583	8,900
China.....	2,127	3,375	2,978	South Africa.....	455	581	881
Czechoslovakia.....	92	80	129	South America.....	732	928	1,368
Denmark.....	716	874	1,079	Southern Rhodesia.....	93	56	90
Egypt.....	1,532	1,270	1,680	Spain.....	1,123	1,414	1,931
Finland.....	401	558	614	Sweden.....	217	240	383
France.....	3,417	3,691	5,896	Switzerland.....	760	1,144	1,650
Germany.....	4,866	7,031	7,249	Turkey.....	395	662	672
Greece.....	4,819	6,181	7,714	Union of Soviet Socialist Republics.....	80	159	265
Hungary.....	460	592	598	United States.....	11,350	13,857	16,154
India.....	1,309	2,386	2,775	Yugoslavia.....	1,519	1,886	2,897
Ireland, Republic of.....	908	1,311	2,272	Other African.....	134	90	146
Israel.....	929	837	1,455	Other Asian.....	622	2,441	3,778
Italy.....	20,720	28,397	33,977	Other European.....	76	712	659
Japan.....	140	188	500	Stateless.....	2,661	2,526	2,808
Lebanon.....	385	637	892	Other.....	1,624	2,486	4,144
Luxembourg.....	12	11	25				
Mexico.....	114	130	105				
Morocco.....	980	775	309				
				Totals.....	112,606	146,758	194,743

Sex distribution of recent immigrant arrivals is shown in Table 7. In the three years 1964-66, adult males comprised 36.1 p.c. of the immigrants, adult females 37.4 p.c. and children under 18 years of age the remaining 26.5 p.c. Without relation to age, 49.1 p.c. of the newcomers were females.

7.—Sex Distribution of Immigrants as Adult Males, Adult Females and Children, 1964-66

NOTE.—Figures from 1930 are given in the corresponding table of previous Year Books beginning with the 1946 edition.

Item	1964	1965	1966
No.	No.	No.	No.
Males.....	55,825	74,707	100,349
Under 18 years.....	16,321	21,761	28,724
Adult.....	39,504	52,946	71,625
Females.....	56,781	72,051	94,394
Under 18 years.....	15,344	20,561	27,321
Adult.....	41,437	51,490	67,073
Totals, Immigrants.....	112,606	146,758	194,743

The number of female immigrants coming into Canada was higher than the number of male immigrants in every year from 1957 to 1964. In 1965, however, the trend was reversed, and again in 1966 the number of males exceeded the number of females in total. In the single category, males were predominant up to age 40, whereas in the married category females exceeded males by 1,954, in the widowed category by 3,001 and in the divorced and separated category by 348. Of all persons arriving in 1966 who were 15 years of age or over, 56.1 p.c. were married, 39.5 p.c. were single and 4.4 p.c. were widowed, divorced or separated.

8.—Marital Status of Immigrant Arrivals, by Sex and Age Group, 1966

Sex and Age Group	Single	Married	Widowed	Divorced	Separated	Total
	No.	No.	No.	No.	No.	No.
Males—						
0-14 years.....	25,395	—	—	—	—	25,395
15-19 ".....	6,972	95	—	—	1	7,068
20-24 ".....	13,485	3,946	3	24	16	17,474
25-29 ".....	8,708	9,450	13	105	52	18,328
30-39 ".....	3,679	15,191	42	259	109	19,280
40-49 ".....	529	6,618	55	149	66	7,417
50-59 ".....	118	2,738	94	56	27	3,033
60 years or over.....	69	1,789	437	41	18	2,354
Totals, Males.....	58,955	39,827	644	634	289	100,349
Females—						
0-14 years.....	24,036	5	—	—	—	24,041
15-19 ".....	5,806	1,839	—	—	—	7,645
20-24 ".....	9,487	9,170	11	51	19	18,738
25-29 ".....	4,932	9,826	23	133	45	14,959
30-39 ".....	2,472	12,191	99	257	77	15,096
40-49 ".....	547	5,086	319	220	81	6,253
50-59 ".....	200	2,357	984	143	96	3,780
60 years or over.....	217	1,307	2,209	87	62	3,882
Totals, Females.....	47,697	41,781	3,645	891	380	94,394

Destinations and Occupations.—Upon arrival in Canada, immigrants are asked to state their intended destinations. According to these records, Ontario absorbed by far the highest proportion of arrivals in the three-year period 1964-66—54.5 p.c. of all the males and 55.0 p.c. of all the females. Quebec was the second province of destination, receiving 21.7 p.c. of the males and 20.3 p.c. of the females, followed by British Columbia with 11.9 p.c. of the males and 12.6 p.c. of the females. The proportions intending to settle in the Prairie Provinces were 9.4 p.c. and 9.8 p.c., respectively, and in the Atlantic Provinces 2.3 p.c. and 2.1 p.c., respectively. The provincial distribution has changed little from year to year throughout the whole postwar period.

9.—Intended Province of Destination of Male and Female Immigrants Admitted to Canada, 1964-66

Province or Territory	1964			1965			1966		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	224	221	445	303	301	604	422	383	805
Prince Edward Island.....	33	46	79	63	74	137	73	68	141
Nova Scotia.....	601	588	1,189	867	745	1,612	1,156	928	2,084
New Brunswick.....	320	376	696	573	501	1,074	670	613	1,283
Quebec.....	13,400	12,573	25,973	15,942	14,404	30,346	20,882	18,316	39,198
Ontario.....	30,358	31,110	61,468	40,357	39,345	79,702	55,230	52,391	107,621
Manitoba.....	1,581	1,425	3,006	2,053	1,895	3,948	2,607	2,525	5,132
Saskatchewan.....	873	922	1,795	1,238	1,411	2,649	1,621	1,819	3,440
Alberta.....	2,594	2,927	5,521	3,975	4,074	8,049	5,123	4,955	10,078
British Columbia.....	5,790	6,534	12,324	9,269	9,233	18,502	12,452	12,294	24,746
Yukon and Northwest Territories	51	59	110	67	68	135	113	102	215
Canada.....	55,825	56,781	112,606	74,707	72,051	146,758	100,349	94,394	194,743

In like manner, immigrant arrivals are asked to record the occupations they intend to follow in Canada. Approximately 50.9 p.c. of the persons admitted in 1966 declared that they would enter the labour force. The other 49 p.c. were wives, children and other dependants or were retired persons. Of the male workers, 25.1 p.c. were classed as managerial, professional and technical, 5.0 p.c. were clerical workers, 4.1 p.c. were in service occupations, 30.0 p.c. were in manufacturing, mechanical and construction trades; 9.6 p.c.

were general labourers and 4.3 p.c. were farmers. About 19 p.c. of the female immigrants entering the labour force intended to follow service occupations. Details are given in Table 10.

**10.—Intended Occupations of Male and Female Immigrants Admitted to Canada,
1965 and 1966**

Intended Occupation	1965			1966		
	Males	Females	Total	Males	Females	Total
	No.	No.	No.	No.	No.	No.
Workers						
Managerial (owners, managers, officials).....	1,649	79	1,728	2,193	99	2,292
Professional and Technical.....	10,527	6,127	16,654	15,345	8,292	23,637
Professional Engineers—						
Civil.....	530	3	533	793	6	799
Mechanical.....	691	1	692	936	1	937
Industrial.....	79	1	80	137	—	137
Electrical.....	485	1	486	707	4	711
Mining.....	117	—	117	164	—	164
Chemical.....	238	4	242	285	12	297
Other.....	99	5	104	159	6	165
Physical Scientists—						
Chemists.....	370	48	418	496	70	566
Geologists.....	163	3	166	173	5	178
Physicists.....	101	7	108	149	7	156
Other.....	46	4	50	65	2	67
Biologists and Agricultural Professionals—						
Biological scientists.....	84	30	114	106	28	134
Veterinarians.....	23	—	23	43	2	45
Other.....	59	7	66	96	9	105
Teachers—						
Professors, principals.....	943	141	1,084	1,193	217	1,410
School teachers.....	976	1,432	2,408	1,443	2,022	3,465
Other instructors.....	46	85	131	86	131	217
Health Professionals—						
Physicians, surgeons.....	679	113	792	848	147	995
Dentists.....	51	9	60	61	17	78
Nurses, graduate.....	115	2,714	2,829	166	3,566	3,732
Nurses-in-training.....	8	27	35	8	41	49
Therapists.....	29	190	219	35	231	266
Optometrists.....	8	2	10	8	3	11
Osteopaths, chiropractors.....	11	3	14	1	1	2
Pharmacists.....	46	41	87	62	44	106
Medical and dental technicians.....	136	173	309	155	234	389
Other.....	28	106	134	8	17	25
Law Professionals.....	42	7	49	63	2	65
Religion Professionals.....	340	116	456	408	84	492
Artists, Writers and Musicians—						
Commercial artists.....	114	23	137	156	36	192
Art teachers.....	17	8	25	40	17	57
Authors, editors, journalists.....	178	55	233	246	45	291
Musicians, music teachers.....	70	26	96	89	26	115
Other Professionals—						
Architects.....	165	15	210	333	22	355
Draughtsmen.....	1,499	90	1,589	2,380	145	2,525
Surveyors.....	83	2	85	123	2	125
Actuaries, statisticians.....	31	8	39	55	10	65
Economists.....	74	7	81	119	20	139
Computer programmers.....	—	1	1	95	19	114
Accountants, auditors.....	366	46	412	587	78	665
Dietitians.....	—	44	44	1	64	65
Social workers.....	49	107	156	62	129	191
Librarians.....	28	73	101	45	114	159
Interior decorators.....	76	32	108	98	62	160
Photographers.....	109	17	126	174	26	200
Science technicians.....	830	214	1,044	1,437	434	1,871
Miscellaneous.....	265	86	351	451	134	585

**10.—Intended Occupations of Male and Female Immigrants Admitted to Canada,
1965 and 1966—continued**

Intended Occupation	1965			1966		
	Males	Females	Total	Males	Females	Total
	No.	No.	No.	No.	No.	No.
Workers—continued						
Clerical.....	2,989	6,930	9,919	3,643	9,592	13,235
Bookkeepers, cashiers.....	542	803	1,345	877	1,109	1,786
Storekeepers, shipping clerks.....	350	53	403	554	106	660
Stenographers, typists.....	70	4,343	4,413	79	6,171	6,250
Other.....	2,027	1,731	3,758	2,333	2,206	4,539
Transportation.....	931	5	936	1,294	8	1,302
Aircraft operators.....	36	—	36	62	—	62
Railway operators.....	13	1	14	18	—	18
Water transport.....	227	1	228	268	1	269
Road transport.....	625	3	628	895	3	898
Other.....	30	—	30	51	4	55
Communication.....	109	158	267	148	359	507
Commercial.....	1,624	861	2,485	2,029	1,006	3,035
Auctioneers, canvassers.....	9	—	9	20	1	21
Pedlars, commercial travellers.....	113	3	116	179	2	181
Sales clerks, salesmen.....	1,478	840	2,318	1,809	989	2,798
Other.....	24	18	42	21	14	35
Financial.....	165	10	175	259	12	271
Service and Recreation.....	2,575	5,012	7,587	3,421	5,260	8,681
Protective service.....	166	6	172	406	8	414
Cooks.....	611	128	739	812	169	981
Domestic servants.....	51	3,043	3,094	39	2,750	2,789
Nurses' aides.....	33	292	325	85	518	603
Waiters, porters.....	812	756	1,568	1,052	710	1,762
Athletes, entertainers.....	102	44	146	150	60	210
Other.....	800	743	1,543	877	1,045	1,922
Farmers.....	2,291	71	2,362	3,046	107	3,153
Loggers and Related Workers.....	153	1	154	179	—	179
Fishermen, Hunters, Trappers.....	33	—	33	81	—	81
Miners, Well Drillers.....	230	—	230	334	—	334
Construction.....	6,599	2	6,601	9,523	12	9,535
Carpenters.....	1,728	1	1,729	2,464	3	2,467
Plumbers.....	505	—	505	789	—	789
Electricians.....	1,030	—	1,030	1,680	1	1,681
Painters, glaziers.....	736	—	736	863	5	868
Bricklayers, stonemasons.....	1,829	—	1,829	2,470	—	2,470
Cement and concrete workers.....	99	—	99	105	—	105
Plasterers, lathers.....	136	—	136	260	—	260
Sheet metal workers.....	370	1	371	650	2	652
Other (excl. labourers).....	166	—	166	242	1	243
Manufacturing and Mechanical.....	14,635	2,931	17,566	20,919	3,593	24,512
Food workers.....	1,133	37	1,170	1,435	43	1,478
Rubber workers.....	42	—	42	71	—	71
Leather workers.....	332	23	355	353	31	384
Textile workers.....	222	152	374	278	211	489
Tailors, furriers.....	888	2,231	3,119	947	2,844	3,791
Woodworkers sawyers.....	977	1	978	1,232	10	1,242
Paper and chemical workers.....	64	7	71	148	9	157
Printers, bookbinders.....	455	50	505	668	80	748
Furnacemen, moulders.....	372	—	372	518	1	519
Jewellers, watchmakers.....	175	4	179	197	7	204
Machinists.....	5,036	36	5,072	7,961	84	8,045
Mechanics, repairmen.....	2,629	2	2,631	3,657	7	3,664
Electrical, electronic workers.....	1,115	42	1,157	1,688	106	1,794
Painters (excl. construction).....	254	1	255	399	1	400
Clay, glass, stone workers.....	204	13	217	195	20	215
Stationary enginemen.....	372	1	373	541	1	542
Freight handlers.....	56	—	56	71	—	71
Other.....	309	331	640	560	138	698

**10.—Intended Occupations of Male and Female Immigrants Admitted to Canada,
1965 and 1966—concluded**

Intended Occupation	1965			1966		
	Males	Females	Total	Males	Females	Total
	No.	No.	No.	No.	No.	No.
Workers—concluded						
Labourers.....	6,648	464	7,112	6,708	885	7,593
Not Stated.....	257	129	386	616	247	863
Totals, Workers.....	51,415	22,780	74,195	69,738	29,472	99,210
Non-workers						
Wives.....	—	25,809	25,809	—	34,216	34,216
Children.....	20,907	19,408	40,315	27,775	26,120	53,895
Other.....	2,385	4,054	6,439	2,837	4,585	7,422
Totals, Non-workers.....	23,292	49,271	72,563	30,612	64,921	95,533
Totals, Immigrants.....	74,707	72,051	146,758	100,350	94,393	194,743

Deportations.—Deportations by cause and nationality are shown in Table 11 for the years 1964-66. Persons who have not yet acquired domicile (five years of residence in Canada as landed immigrants) may be deported if they fall into prohibited classes at time of admission or within five years of admission, if they have engaged in commercialized vice, have been convicted under the Criminal Code or have become inmates of prisons, or have gained admission by fraudulent means. The causes that may lead to deportation are narrowed after a person has acquired domicile. A person not a citizen may be deported regardless of length of residence if he is found to be a member of a subversive organization or engages in subversive activities, or if he has been convicted of an offence involving disloyalty to the Queen, or if he has, outside of Canada, engaged in activities detrimental to the security of Canada. A Canadian citizen cannot be deported.

11.—Deportations,¹ by Cause and Nationality, 1964-66

NOTE.—Figures from 1903 are given in the corresponding table of previous Year Books.

Cause and Nationality	1964	1965	1966
	No.	No.	No.
Cause			
Mental and physical.....	32	39	62
Public charges.....	6	6	11
Criminality.....	174 ^r	189	257
Misrepresentation ² and stealth.....	347	502	593
Other causes.....	163 ^r	105	96
Totals, Deportations.....	722	841	1,019
Nationality			
British.....	76	80	97
United States.....	194	222	318
Other.....	452	539	604

¹ Excludes rejections and persons refused admission.

² Includes deserting seamen deported.

Section 3.—Emigration Statistics

Emigration from Canada is an important factor tending to offset to some extent present and past immigration activities. The major outward movement has always, of course, been to the United States and that movement, both of native-born Canadians and of Europeans who originally migrated to Canada, has attained considerable proportions at certain periods. No Canadian statistics on emigration are available but Table 12 gives figures taken from the annual reports of the Immigration and Naturalization Service of the United States Department of Justice. These figures show the numbers of persons entering the United States from Canada during the years ended June 30, 1957-66 with the expressed intention of establishing permanent residence in that country. They do not include persons travelling for pleasure, even for extended periods of time, holders of border-crossing cards (normally issued to persons living in border areas of Canada but working in the United States) or casual tourist crossings in these same areas.

Of the 28,358 Canadian-born persons entering the United States in the year ended June 30, 1966 with the intention of remaining permanently, 13,131 were males and 15,227 females. Slightly fewer than one quarter, or 6,828, of the total native-born emigrants were males in the productive age group, 20-59 years. By occupation, the largest group of the total of 28,358 native-born persons was the professional or technical group which numbered 3,703; clerical and kindred workers numbered 2,426, and 1,415 were classed as craftsmen or foremen. On the other hand, 16,486 persons, or 58.1 p.c. of the total, were classed as housewives, children and others with no reported occupation. Altogether, 43.1 p.c. of the total were persons under 20 years of age.

Of the 37,273 persons entering the United States from Canada claiming Canada as country of last permanent residence—which of course includes native-born persons and those born in other countries who have resided in Canada—the Immigration and Naturalization Service of the United States Department of Justice lists 5,587 as professional, technical and kindred workers, 3,170 as clerical and kindred workers and 2,455 as craftsmen, foremen and kindred workers. Housewives, children and others with no reported occupation accounted for 20,001, or 53.7 p.c. of the total.

12.—Canadian-Born Persons Entering the United States from Canada and Elsewhere, and All Persons Entering the United States from Canada, Years Ended June 30, 1957-66

NOTE.—Includes only persons who have declared their intention of remaining permanently in the United States when applying for a visa (see text above). SOURCE: Immigration and Naturalization Service, United States Department of Justice.

Year	Entering U.S. from Canada		Canadian-Born Entering U.S. from Elsewhere	Year	Entering U.S. from Canada		Canadian-Born Entering U.S. from Elsewhere
	Canadian-Born	All Persons			Canadian-Born	All Persons	
	No.	No.	No.		No.	No.	No.
1957.....	32,354	46,354	849	1962.....	29,569	44,272	808
1958.....	29,245	45,143	810	1963.....	35,320	50,509	683
1959.....	22,325	34,599	757	1964.....	37,351	51,114	723
1960.....	30,312	46,668	678	1965.....	37,519	50,035	808
1961.....	31,312	47,470	726	1966.....	27,707	37,273	651

PART II.—CANADIAN CITIZENSHIP

Section 1.—The Canadian Citizenship Act

On Jan. 1, 1947, the Canadian Citizenship Act came into effect replacing previous Naturalization Acts in force in Canada. The Citizenship Act created the distinct nationality of a "Canadian citizen" to be recognized throughout the world and it provided a means whereby those non-Canadian British subjects and aliens who were permanently residing in Canada or those who might subsequently immigrate to Canada could apply for the grant of Canadian citizenship. The Citizenship Act provides that all Canadian citizens are recognized as British subjects or Commonwealth citizens, but the reverse is not necessarily true.

The administration of Canadian citizenship was the responsibility of the Department of Citizenship and Immigration from Jan. 18, 1950 to Oct. 1, 1966 when, as a result of the proclamation of the Government Organization Act (SC 1966, c. 25), it was transferred to the Department of the Secretary of State. Naturalization procedures and events leading to the passing of the Canadian Citizenship Act are given in the 1951 Year Book, pp. 153-155. Over the years the Citizenship Act has undergone several amendments, the latest on July 7, 1967. The provisions of the Act, including the 1967 amendments, are outlined briefly in the following paragraphs.

Natural-Born Canadian Citizens, Born before Jan. 1, 1947.—The Act conferred natural-born status upon two categories of persons in being on Jan. 1, 1947. These were (1) those born in Canada or on a Canadian ship or aircraft and who were not aliens on Jan. 1, 1947; and (2) those born of Canadian fathers outside of Canada who were not aliens on Jan. 1, 1947 and were either minors on that date or had already entered Canada for permanent residence.

The Act provides that a person born abroad who was a minor on Jan. 1, 1947 will automatically cease to be a Canadian citizen on his 24th birthday or on Jan. 1, 1954, whichever is the later date, unless he has his place of domicile in Canada at such date or has, before such date and after reaching the age of 21 years, filed a declaration of retention of Canadian citizenship.

Natural-Born Canadian Citizens, Born after Dec. 31, 1946.—A person born outside of Canada subsequent to that date, whose responsible parent is considered a Canadian citizen pursuant to the terms of the Canadian Citizenship Act, is a Canadian if his birth is registered with the Registrar of Canadian Citizenship within two years of its occurrence or within such extended period as the Minister may authorize in special cases.

A person who becomes a natural-born Canadian citizen in such a manner will automatically cease to be a Canadian citizen if he fails to file a declaration of retention prior to his 24th birthday or does not have his place of domicile in Canada upon that date.

Newfoundland and Canadian Citizenship.—On Apr. 1, 1949, Newfoundland became the tenth province of Canada and every person born therein or naturalized or every British subject who had domicile in Newfoundland on that date or every woman who married a citizen of Newfoundland and took up residence there before Apr. 1, 1949 became a Canadian citizen. They acquired the right of conferring Canadian citizenship by descent to their children born outside of Newfoundland in the same manner as those who had previously become Canadians. Persons born outside of Newfoundland to Newfoundland parents are natural-born Canadian citizens provided they were either a minor on Apr. 1, 1949 or had before that date been lawfully admitted to Canada or Newfoundland for permanent residence. However, a person who was a minor on Apr. 1, 1949, ceased to be a Canadian on his 24th birthday or on July 1, 1968, whichever is the later date, unless he has his place of domicile in Canada at such date or has before such date, and after reaching the age of 21 years, filed a declaration of retention of Canadian citizenship. A person born outside of Canada to Newfoundland parents after Mar. 31, 1949 is a natural-born Canadian if his birth is registered with the Registrar of Canadian Citizenship within

two years of its occurrence or within such extended period as the Minister may authorize in special cases. A person who becomes a natural-born Canadian in such a manner will automatically cease to be a Canadian citizen if he fails to file a declaration of retention prior to his 24th birthday or does not have his place of domicile in Canada on that date.

Canadian Citizens other than Natural-Born.—Before the 1953 amendments to the Citizenship Act, the only persons who acquired Canadian citizenship on Jan. 1, 1947 through the transitional clauses of Sect. 9 were persons who were naturalized in Canada before that date, British subjects who had Canadian domicile at the commencement of the Act and women lawfully admitted to Canada and married prior to Jan. 1, 1947 whose husbands would have qualified as Canadian citizens if the Act had come into force before the date of marriage. Sect. 9 was amended on June 1, 1953, so that a British subject who had his place of domicile in Canada for at least 20 years immediately before Jan. 1, 1947 need not comply with the requirements of Canadian domicile provided he was not under an order of deportation on Jan. 1, 1947.

Acquisition of Canadian Citizenship by Aliens or British Subjects.—An adult non-Canadian British subject or an alien who wishes to become a Canadian must formally file an application for citizenship. The non-Canadian British subject may file an application direct with the Registrar of Canadian Citizenship, whereas an alien must file an application through his local court, or through one of the special citizenship courts now established or, if he lives more than 50 miles from a court, he may mail his application to the Registrar of Canadian Citizenship in Ottawa, who will file it with the appropriate court. After the application has been 'posted' for three months, he shall appear before the court for examination. In either case the same requirements are generally applicable:—

- (1) He must have resided in Canada for 12 of the 18 months immediately preceding the date of his application.
- (2) He must have been lawfully admitted to Canada for permanent residence and either have acquired Canadian domicile before July 7, 1967, or have resided in Canada for five of the eight years immediately preceding the filing of his application. Persons living in Canada before obtaining "landed immigrant" status may count half of each full year before landing toward the residence qualification. The wife of a Canadian needs only to be admitted for permanent residence and reside in Canada for one year.
- (3) He must be of good character and not under an order of deportation.
- (4) He must have an adequate knowledge of either English or French or, alternatively, he is the spouse, widow or widower of a Canadian or, either he was 40 or more years of age at the time of lawful admission and has resided in Canada for more than 10 years or he was less than 40 at the time of admission and has resided continuously in Canada for more than 20 years.
- (5) He must have an adequate knowledge of the responsibilities and privileges of citizenship.
- (6) He must intend to comply with the Oath of Allegiance and to have his place of domicile permanently in Canada.

At the conclusion of a court hearing, the decision of the court is forwarded to the Minister responsible for the administration of the Canadian Citizenship Act. If the decision is favourable and a certificate of Canadian Citizenship is granted by the Minister, it is forwarded to the clerk of the court who shall inform the applicant of the date and time he is to appear before the court to take the Oath of Allegiance, renounce his previous nationality and receive his certificate. Where a court finds that an applicant does not possess the required qualifications to be granted citizenship, the Minister, upon receipt of the decision, will so advise the applicant and give him notice that he may, within 30 days of receipt of such notice, appeal the decision to the Citizenship Appeal Court. The Citizenship Appeal Court consists of one or more designated judges of the Exchequer Court of Canada. If a court rejects an application and this decision is upheld by the Citizenship Appeal Court or if an application is refused by the Minister, the applicant has the right to file a new application two years after the date of rejection.

Status of Married Women.—The Canadian Citizenship Act places no disabilities upon the married woman. She neither acquires nor does she lose Canadian citizenship by marriage. In order to acquire Canadian citizenship she must apply in exactly the same

manner as does a man. The Canadian Citizenship Act also enables a woman married to an alien whose nationality she acquired upon marriage to divest herself of Canadian citizenship by the filing of a declaration of renunciation. Finally, it provides a means whereby a woman, who had become an alien through marriage prior to Jan. 1, 1947, may acquire the Canadian status she would otherwise have assumed on that date.

Status of Minor Children.—Alien and British subject minor children do not automatically become Canadians with their parents. After one parent has become a Canadian, the father as the responsible parent, or the de facto guardian, or mother if she has custody of the child may apply for citizenship on his behalf and application is made to the Registrar of Canadian Citizenship. Provision is also made in the Citizenship Act for the granting of a certificate of citizenship to a minor child in special circumstances.

Loss of Canadian Citizenship.—Canadian citizenship may be lost in the following manner:—

- (1) A Canadian citizen who when outside of Canada and not under disability acquires by a voluntary and formal act other than marriage the nationality or citizenship of a country other than Canada. This does not apply if the country is at war with Canada at the time of acquisition but in such a case the Minister may order that he cease to be a Canadian citizen. The purpose of this is to hold the person, if deemed necessary, to his obligations as a Canadian.
- (2) A natural-born Canadian citizen who is a dual national by birth or through naturalization, and any Canadian citizen on marriage, may after attaining the age of 21 cease to be a Canadian citizen through the making of a declaration of renunciation thereof.
- (3) A Canadian citizen who under the law of another country is a national or citizen of such country and who serves in the armed forces of such country when it is at war with Canada. This does not apply if the Canadian citizen became a national or citizen of such country when it was at war with Canada.

Prior to the 1967 amendments of the Citizenship Act, a person, other than a natural-born Canadian, who since becoming a Canadian had resided outside of Canada for 10 consecutive years automatically ceased to be a Canadian; this provision for automatic loss has been removed from the Citizenship Act.

Loss of Citizenship by Revocation—*Applicable Both to Non-natural-Born and to Natural-Born Canadians.*—Prior to the 1967 amendments of the Citizenship Act, loss of Canadian citizenship by revocation was limited under certain provisions of the Act only to non-natural-born Canadians. This discriminatory distinction between non-natural-born and natural-born Canadians has been removed from the Citizenship Act and the following substituted: Canadian citizenship may be revoked by the Governor in Council if, upon a report from the Minister, he is satisfied that *any Canadian citizen* has, when not under a disability, (1) acquired voluntarily, when in Canada, the citizenship of a foreign country (other than by marriage); (2) taken or made an oath affirmation or other declaration of allegiance to a foreign country; (3) made a declaration renouncing his Canadian citizenship; or (4) obtained Canadian citizenship by false representation or fraud or by concealment of material circumstances.

Doubt as to Loss of Citizenship.—Where in the opinion of the Minister a doubt exists as to whether a person has ceased to be a Canadian citizen, the Minister may refer the question to the commission referred to in the Citizenship Act for a ruling and the decision of the commission or the court, as the case may be, shall be final.

Section 2.—Canadian Citizenship Statistics

According to the 1961 Census, which required that each person state the country to which he owed allegiance and had citizenship rights as at June 1, 1961, less than 6 p.c. of Canada's population reported a country of citizenship other than Canada. Table 1 shows the citizenship of the population by province.

1.—Citizenship of the Population, by Province, Census 1961

Province or Territory	Canadian	Other Common- wealth	United States	European Countries	Asiatic	Other	Total
	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	455,282	1,186	499	763	95	28	457,853
Prince Edward Island.....	103,618	337	283	364	16	11	104,629
Nova Scotia.....	725,686	4,568	2,254	4,122	237	140	737,007
New Brunswick.....	590,662	2,003	2,573	2,443	112	143	597,936
Quebec.....	5,078,082	31,491	16,585	121,278	4,608	7,167	5,259,211
Ontario.....	5,673,098	184,429	36,329	317,216	7,309	17,711	6,236,092
Manitoba.....	879,187	10,059	3,242	26,347	688	2,163	921,686
Saskatchewan.....	902,106	5,946	3,656	11,664	969	840	925,181
Alberta.....	1,240,895	21,353	11,674	53,129	1,982	2,911	1,331,944
British Columbia.....	1,468,498	44,647	10,908	64,641	6,973	3,415	1,629,082
Yukon and Northwest Territories.....	35,315	671	309	1,228	44	59	37,626
Canada.....	17,182,429	306,690	88,312	603,195	23,033	34,588	18,238,247

Citizenship Certificates Issued and Granted.—Citizenship certificates “issued”, as shown in Table 2, include both certificates granted to new citizens and those issued for various reasons to persons who were already Canadian citizens; certificates “granted” means that the holders became Canadian citizens by the grant of such certificates.

2.—Citizenship Certificates Issued and Granted, by Status of Recipient, 1965 and 1966

Certificates	1965	1966	Certificates	1965	1966
	No.	No.		No.	No.
Issued—			Granted to—concluded		
To Canadians by—			Alien.....	51,775	48,155
Birth.....	1,775	2,465	Adults.....	39,641	36,354
Naturalization.....	1,683	1,608	Minors.....	11,610	11,001
Marriage.....	296	345	Adopted or legitimated.....	369	405
Domicile.....	1,626	1,535	Re-acquisition of status.....	355	395
To remove doubt.....	18	16			
Resumption.....	285	298	Totals, Granted.....	63,844	60,847
Replacements.....	4,843	3,747			
Minutaires.....	49,570	49,210	Totals, Issued and Granted.....	123,940	120,071
Totals, Issued.....	60,096	59,224	Miscellaneous—		
Granted to—			Retention.....	324	278
British.....	12,069	12,692	Registration of births abroad.....	6,342	6,644
Adults.....	9,442	9,893	Extension ¹	153	208
Minors.....	2,611	2,644	Loss by—		
Adopted or legitimated.....	116	165	Alienation.....	767	596
			Revocation.....	1	—

¹ Represents only those cases reported to the Citizenship Branch by posts abroad.

Characteristics of Persons Granted Citizenship Certificates in 1966.—Comparable detailed statistics showing the characteristics of persons granted citizenship certificates are available since 1953; such characteristics include age, marital status, occupation, period of immigration, residence and previous nationality. The number of applicants fluctuates from year to year but it is known that about 40 p.c. of the immigrants who entered Canada during the past ten years who are eligible for Canadian citizenship have become Canadians.

Of the 60,852 persons granted citizenship in 1966, fewer than 1 p.c. had immigrated to Canada before 1921, 2 p.c. in the period 1921-40, 7 p.c. in the period 1941-50 and 91 p.c.

after 1950. Regionally, these new citizens were distributed as follows: 2 p.c. in the Atlantic Provinces, 18 p.c. in Quebec, 54 p.c. in Ontario, 14 p.c. in the Prairie Provinces and 12 p.c. in British Columbia. Almost 87 p.c. of them resided in urban centres.

About 21 p.c. of the persons naturalized in 1966 previously owed allegiance to a British Commonwealth country, 17 p.c. were former citizens of Italy, 13 p.c. of Germany, 9 p.c. of the Netherlands, 4 p.c. of Hungary, 5 p.c. of Greece and 5 p.c. of Yugoslavia. Most of the persons designated as "stateless" were born in Poland, the U.S.S.R., Yugoslavia, Hungary, Germany, Czechoslovakia and Romania.

Among the males in the labour force naturalized in 1966, craftsmen, production process and related workers occupations were reported by 46 p.c., 11 p.c. were in service and recreation occupations, 13 p.c. were in professional and technical occupations, labourers accounted for 8 p.c., managerial occupations for 6 p.c., clerical workers for 4 p.c. and farmers and farm workers for 4 p.c. each. Of the females, 47 p.c. were homemakers and, among those employed outside the home, 31 p.c. were in the craftsmen, production process and related workers occupations group, 24 p.c. were in service and recreation occupations and 25 p.c. were in clerical occupations.

3.—Persons Granted Citizenship Certificates in 1965 and 1966, by Province of Residence, and Period of Immigration to Canada

Year and Residence	Period of Immigration						Born in Canada ¹	Total
	Before 1921	1921-1930	1931-1940	1941-1950	1951-1960	1961-1965		
1965	No.	No.	No.	No.	No.	No.	No.	No.
Residing in Canada.....	446	750	283	4,162	55,168	2,763	126	63,698
Newfoundland.....	—	—	1	9	66	7	—	83
Prince Edward Island.....	—	—	1	6	39	8	1	55
Nova Scotia.....	6	7	—	43	409	19	1	485
New Brunswick.....	3	1	—	23	216	26	1	270
Quebec.....	61	107	38	434	10,347	504	18	11,509
Ontario.....	86	275	105	2,283	30,522	1,493	37	34,801
Manitoba.....	36	63	26	198	2,241	98	9	2,671
Saskatchewan.....	63	78	23	93	637	50	16	960
Alberta.....	73	111	47	453	4,333	196	20	5,233
British Columbia.....	117	105	41	613	6,211	360	23	7,470
Yukon and N.W.T.....	1	3	1	7	147	2	—	161
Residing Outside Canada.....	1	—	3	12	92	25	13	146
Totals, Naturalized.....	447	750	286	4,174	55,260	2,788	139	63,844
	Period of Immigration						Born in Canada ¹	Total
	Before 1921	1921-1930	1931-1940	1941-1950	1951-1960	1961-1966		
1966	No.	No.	No.	No.	No.	No.	No.	No.
Residing in Canada.....	395	781	230	3,913	46,482	8,798	159	60,758
Newfoundland.....	1	—	3	8	68	14	—	94
Prince Edward Island.....	—	2	—	7	37	2	—	48
Nova Scotia.....	2	11	4	58	470	79	2	626
New Brunswick.....	—	1	—	31	209	66	2	309
Quebec.....	55	94	32	415	8,098	2,102	26	10,822
Ontario.....	98	295	92	2,130	25,235	4,670	53	32,573
Manitoba.....	42	73	24	194	1,904	254	15	2,506
Saskatchewan.....	30	64	17	119	723	150	14	1,117
Alberta.....	64	135	36	360	3,868	502	22	4,987
British Columbia.....	102	105	22	583	5,772	947	25	7,556
Yukon and N.W.T.....	1	1	—	8	98	12	—	120
Residing Outside Canada.....	1	—	—	12	46	26	9	94
Totals, Naturalized.....	396	781	230	3,925	46,528	8,824	168	60,852

¹ Canadian-born persons who lost their citizenship by marriage; this applies to females only.

4.—Persons Granted Citizenship Certificates in 1965 and 1966, by Age Group, Occupation and Sex

Age Group and Occupation	1965			1966		
	Males	Females	Total	Males	Females	Total
	No.	No.	No.	No.	No.	No.
Age Group						
0-14 years.....	3,895	3,550	7,445	3,483	3,266	6,749
15-19 ".....	3,346	3,051	6,397	3,447	3,192	6,639
20-29 ".....	7,926	6,832	14,758	6,941	6,303	13,244
30-39 ".....	9,996	7,820	17,816	8,931	7,643	16,574
40-49 ".....	5,307	4,403	9,710	5,204	4,633	9,837
50-59 ".....	2,472	2,352	4,824	2,378	2,398	4,776
60-69 ".....	1,065	1,304	2,369	1,139	1,296	2,435
70+ ".....	275	250	525	310	288	598
Totals.....	34,282	29,562	63,844	31,833	29,019	60,852
Occupation						
Managerial.....	1,661	173	1,834	1,476	181	1,657
Professional and technical.....	3,093	1,129	4,222	3,131	1,168	4,299
Clerical.....	1,043	2,297	3,340	980	2,334	3,314
Transport and communication.....	846	60	906	707	83	790
Sales.....	902	347	1,249	737	312	1,049
Service and recreation.....	3,205	2,480	5,685	2,770	2,286	5,056
Farmers and farm workers.....	1,099	40	1,139	838	38	976
Fishermen, trappers and loggers.....	251	—	251	179	2	181
Miners, quarrymen and related workers.....	347	—	347	244	—	244
Craftsmen, production process and related workers.....	11,668	3,022	14,690	11,100	2,924	14,024
Labourers, n.e.s.....	2,146	25	2,171	1,846	8	1,854
Homemakers.....	—	13,610	13,610	—	13,513	13,513
No occupation (including students, retired, etc.).....	3,844	2,590	6,434	3,893	2,736	6,629
Children under 14 years of age.....	3,299	3,040	6,339	2,931	2,721	5,652
Not stated ¹	878	749	1,627	901	713	1,614

¹ Mainly children over 14 years of age.

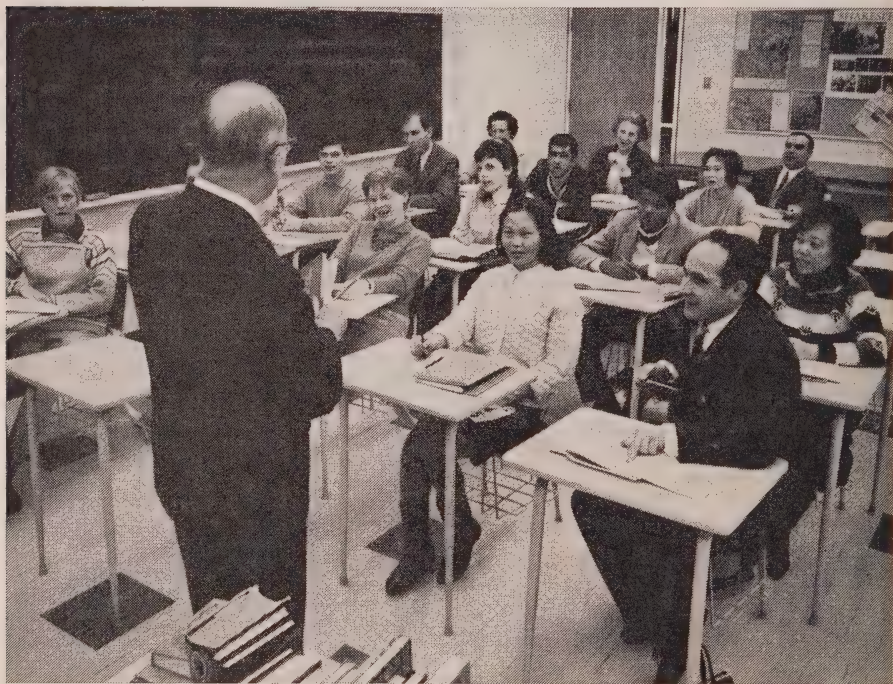
5.—Persons Granted Citizenship Certificates in 1965 and 1966, by Country of Birth

Country of Birth	1965	1966	Country of Birth	1965	1966
	No.	No.		No.	No.
Algeria.....	59	53	Morocco.....	122	162
Argentina.....	74	66	Netherlands.....	5,809	5,529
Australia.....	104	135	Norway.....	185	200
Austria.....	977	925	Poland.....	3,795	3,353
Belgium.....	737	784	Portugal.....	1,464	1,440
Britain.....	8,429	8,646	Romania.....	746	664
Canada.....	274	300	South Africa.....	174	224
China.....	1,914	1,631	Spain.....	215	260
Czechoslovakia.....	433	410	Sweden.....	138	138
Denmark.....	804	804	Switzerland.....	337	303
Egypt.....	167	—	Turkey.....	180	175
Finland.....	718	703	Union of Soviet Socialist Republics ¹	1,959	1,757
France.....	851	997	United States.....	878	1,080
Germany.....	7,139	6,851	West Indies.....	722	741
Greece.....	3,339	2,943	Yugoslavia.....	3,359	3,057
Guyana.....	130	166	Other.....	973	1,260
Hong Kong.....	281	281			
Hungary.....	3,632	2,597	Totals, All Countries.....	63,844	60,852
India.....	609	654			
Indonesia.....	99	104			
Ireland, Republic of.....	548	666	Commonwealth.....	11,254	11,552
Israel.....	355	253	Other Asia.....	3,150	2,723
Italy.....	10,453	9,916	Other Europe.....	47,719	44,393
Japan.....	95	96	South America.....	337	341
Lebanon.....	332	261	United States.....	878	1,080
Malta.....	235	267	Other.....	506	763

¹ Includes Baltic countries.

6.—Persons Granted Citizenship Certificates in 1965 and 1966, by Country of Former Allegiance

Country of Former Allegiance	1965	1966	Country of Former Allegiance	1965	1966
	No.	No.		No.	No.
Commonwealth countries.....	12,069	12,697	Lebanon.....	354	290
Austria.....	926	857	Lithuania.....	135	152
Belgium.....	656	704	Netherlands.....	5,960	5,700
Bulgaria.....	29	29	Norway.....	184	205
China.....	1,886	1,622	Poland.....	3,212	2,917
Czechoslovakia.....	235	245	Portugal.....	1,466	1,452
Denmark.....	815	815	Romania.....	271	330
Estonia.....	198	182	Spain.....	214	261
Finland.....	723	706	Sweden.....	123	118
France.....	925	1,106	Switzerland.....	339	309
Germany.....	8,054	7,845	Turkey.....	141	127
Greece.....	3,394	2,985	Union of Soviet Socialist Republics.....	1,082	988
Hungary.....	3,456	2,431	United States.....	1,056	1,239
Israel.....	1,351	792	Yugoslavia.....	3,167	2,884
Italy.....	10,549	10,048	Other.....	579	569
Japan.....	96	88			
Latvia.....	199	129			
			Totals, All Countries.....	63,844	60,852



English or French language courses are made available for persons migrating to Canada from many lands, operated in most cases by the municipal school systems. This English class, held in the new High School of Commerce in Ottawa, is sponsored by the Adult Education Division of the Collegiate Institute Board. An Ontario Department of Education grant pays a large part of the instruction costs.

CHAPTER V.—VITAL STATISTICS*

CONSPECTUS

	PAGE		PAGE
SECTION 1. SUMMARY OF VITAL STATISTICS...	250	SECTION 5. MARRIAGES AND DIVORCES.....	281
SECTION 2. BIRTHS.....	255	Subsection 1. Marriages.....	281
SECTION 3. DEATHS.....	265	Subsection 2. Divorces.....	285
Subsection 1. General Mortality.....	265	SECTION 6. CANADIAN LIFE TABLES.....	285
Subsection 2. Infant Mortality.....	273	SECTION 7. INTERNATIONAL COMPARISONS OF	
Subsection 3. Maternal Mortality.....	277	VITAL STATISTICS.....	289
SECTION 4. NATURAL INCREASE.....	279		

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Vital statistics provide a key to the interpretation of population development—a measure of the pace at which the population is growing, the rate at which women are marrying and reproducing, and the effect this has on the age and sex distribution of the population, as well as the relative importance of the diseases that cause death each year. Vital statistics constitute the record of births, deaths, marriages and divorces registered in the provinces and territories of Canada. The continuity of such data gives a constant guide to the planning, operation and evaluation of many national activities, particularly in the fields of public health, education, community planning and various types of business enterprise.

This Chapter gives a fairly detailed coverage of the vital statistics information available, gives life tables for males and females and presents a comparison of the principal Canadian vital statistics rates with those of other countries. In making international and interprovincial comparisons of birth, death and marriage rates, it is important to note that part of the differences observed over a period of years as between countries, provinces or local areas may be caused by differences in the sex and age distribution of the populations involved. Similarly, rates for any one area may be affected by changes in such distribution. The population data upon which vital statistics rates are computed are given in Chapter III of this volume. Births and deaths are classified by place of residence (births according to the residence of the mother) and marriages by place of occurrence.

The history of the collection of vital statistics in Canada is covered in the 1948-49 Year Book, pp. 185-188. Detailed information is given in *Vital Statistics* (Preliminary Report) (Catalogue No. 84-201), *Vital Statistics of Canada* (Catalogue No. 84-202), *Causes of Death* (Catalogue No. 84-203) and in other regular and special reports; in addition, certain unpublished data are available on request.

This Chapter includes the most recent data available at the time of going to press; certain tables therefore include 1966 data while others are up-dated to 1965 only.

* Revised in the Vital Statistics Section, Health and Welfare Division, Dominion Bureau of Statistics.

Section 1.—Summary of Vital Statistics

Table 1 gives a summary for reference purposes of the principal vital statistics of the provinces and territories of Canada for five-year periods 1941-65 and for single years 1964-66. Table 2 shows similar data for urban centres having at least 20,000 population at the date of the 1961 Census for the year 1965 with comparative averages for 1956-60.

1.—Summary of Principal Vital Statistics, by Province, 1941-66

NOTE.—Figures from 1921, when the collection of national statistics was initiated, are given in previous editions of the Year Book. Figures for neonatal mortality (within the first four weeks of birth) are given on p. 276 and those for divorces on p. 285.

Province and Year	Live Births		Deaths		Natural Increase ¹		Infant Mortality ²		Maternal Mortality		Marriages	
	No.	Rate ³	No.	Rate ³	No.	Rate ³	No.	Rate ⁴	No.	Rate ⁵	No.	Rate ⁶
Newfoundland—												
Av. 1941-45.....	9,292	29.8	3,681	11.8	5,611	18.0	852	91.7	39	41.8	2,967	9.5
" 1946-50.....	12,352	36.2	3,179	9.3	9,173	26.9	754	61.1	25	19.9	2,711	8.0
" 1951-55.....	13,101	34.1	2,926	7.6	10,175	26.5	598	45.6	24	18.3	2,836	7.4
" 1956-60.....	14,934	34.6	3,114	7.2	11,820	27.4	585	39.2	17	11.4	3,032	7.0
" 1961-65.....	15,104	31.5	3,142	6.6	11,962	24.9	538	35.6	7	4.5	3,331	6.9
1964.....	14,680	29.9	3,063	6.2	11,617	23.7	456	31.1	6	4.1	3,385	6.9
1965.....	14,740	29.6	3,230	6.5	11,510	23.1	459	31.1	5	3.4	3,412	6.9
1966.....	14,084	28.5	3,072	6.2	11,012	22.3	395	28.0	2	1.4	3,728	7.6
P.E. Island—												
Av. 1941-45.....	2,180	23.7	964	10.5	1,216	13.2	114	52.4	9	39.4	686	7.5
" 1946-50.....	2,869	30.5	922	9.8	1,947	20.7	114	39.7	4	13.2	677	7.2
" 1951-55.....	2,720	27.2	923	9.2	1,797	18.0	88	32.4	2	8.1	623	6.2
" 1956-60.....	2,674	26.6	953	9.5	1,721	17.1	87	32.7	1	3.0	645	6.4
" 1961-65.....	2,767	26.0	1,006	9.4	1,761	16.6	78	28.1	1	2.9	672	6.3
1964.....	2,727	25.5	981	9.2	1,746	16.3	72	26.4	—	—	662	6.2
1965.....	2,517	23.3	1,036	9.6	1,481	13.7	74	29.4	—	—	713	6.6
1966.....	2,199	20.3	1,048	9.7	1,151	10.6	57	25.9	2	9.1	752	6.9
Nova Scotia—												
Av. 1941-45.....	15,146	25.2	6,326	10.5	8,820	14.7	870	57.5	41	26.9	6,302	10.5
" 1946-50.....	17,994	28.9	6,042	9.7	11,952	19.2	760	42.2	22	12.0	5,525	8.9
" 1951-55.....	18,246	27.5	5,802	8.8	12,444	18.7	586	32.1	13	6.9	5,283	8.0
" 1956-60.....	19,097	26.9	6,062	8.5	13,035	18.4	559	29.3	9	4.7	5,289	7.4
" 1961-65.....	18,526	24.6	6,312	8.4	12,214	16.2	505	27.2	7	3.6	5,313	7.1
1964.....	18,314	24.1	6,384	8.4	11,930	15.7	464	25.3	9	4.9	5,339	7.0
1965.....	16,524	21.7	6,334	8.3	10,190	13.4	394	23.8	9	5.4	5,549	7.3
1966.....	15,220	20.1	6,478	8.6	8,742	11.5	384	25.2	2	1.3	5,833	7.7
New Brunswick—												
Av. 1941-45.....	13,037	28.2	5,050	10.9	7,987	17.3	960	73.7	42	32.1	4,433	9.6
" 1946-50.....	16,878	34.0	4,886	9.8	11,992	24.2	1,015	60.1	23	13.6	4,864	9.8
" 1951-55.....	16,496	31.0	4,576	8.6	11,920	22.4	717	43.5	16	9.5	4,306	8.1
" 1956-60.....	16,567	29.0	4,640	8.1	11,927	20.9	567	34.2	8	4.6	4,357	7.6
" 1961-65.....	15,668	25.6	4,749	7.8	10,919	17.8	419	26.7	7	4.6	4,531	7.4
1964.....	15,338	24.9	4,736	7.7	10,602	17.2	400	26.1	10	6.5	4,611	7.5
1965.....	14,175	22.8	4,710	7.6	9,465	15.2	326	23.0	5	3.5	4,766	7.7
1966.....	12,722	20.6	4,771	7.7	7,951	12.9	306	24.1	4	3.1	5,165	8.4
Quebec—												
Av. 1941-45.....	97,906	28.4	34,273	9.9	63,633	18.5	6,690	68.3	318	32.5	33,126	9.6
" 1946-50.....	115,496	30.4	33,723	8.9	81,773	21.5	6,205	53.7	227	19.7	34,874	9.2
" 1951-55.....	128,523	30.0	34,269	8.0	94,254	22.0	5,662	44.1	149	11.6	35,584	8.3
" 1956-60.....	139,844	28.6	35,714	7.3	104,130	21.3	5,000	35.8	105	7.5	36,798	7.5
" 1961-65.....	131,453	24.1	37,698	6.9	93,755	17.2	3,874	29.5	62	4.7	38,126	7.0
1964.....	130,845	23.5	37,552	6.8	93,293	16.7	3,587	27.4	50	3.8	39,400	7.1
1965.....	120,607	21.3	38,534	6.8	82,073	14.5	3,160	26.2	42	3.5	40,893	7.2
1966.....	109,878	19.0	38,680	6.7	71,198	12.3	2,776	25.3	58	5.3	44,411	7.7
Ontario—												
Av. 1941-45.....	77,738	19.9	39,738	10.2	38,000	9.7	3,276	42.1	197	25.3	38,042	9.7
" 1946-50.....	105,161	24.6	42,214	9.9	62,947	14.7	3,795	36.1	129	12.3	44,084	10.3
" 1951-55.....	128,861	26.1	44,715	9.0	84,146	17.1	3,634	28.2	83	6.5	45,213	9.1
" 1956-60.....	152,688	26.4	49,431	8.5	103,257	17.9	3,741	24.5	65	4.2	46,482	8.0
" 1961-65.....	152,629	23.6	52,664	8.1	99,965	15.5	3,388	22.2	51	3.3	46,794	7.2
1964.....	152,729	23.2	52,204	7.9	100,525	15.3	3,255	21.3	43	2.8	48,501	7.4
1965.....	141,610	21.0	54,346	8.1	87,264	12.9	2,907	20.5	44	3.1	51,274	7.6
1966.....	131,942	19.0	54,171	7.8	77,771	11.2	2,669	20.2	36	2.7	54,571	7.8

For footnotes, see end of table.

1.—Summary of Principal Vital Statistics, by Province, 1941-66—concluded

Province or Territory and Year	Live Births		Deaths		Natural Increase ¹		Infant Mortality ²		Maternal Mortality		Marriages	
	No.	Rate ³	No.	Rate ³	No.	Rate ³	No.	Rate ⁴	No.	Rate ⁵	No.	Rate ³
Manitoba—												
Av. 1941-45.....	15,831	21.8	6,633	9.1	9,198	12.7	814	51.4	41	26.0	7,295	10.0
" 1946-50.....	19,325	25.9	6,702	9.0	12,623	16.9	810	41.9	24	12.6	7,605	10.2
" 1951-55.....	21,321	26.4	6,775	8.4	14,546	18.0	675	31.7	15	7.0	7,104	8.8
" 1956-60.....	22,408	25.6	7,293	8.3	15,115	17.3	671	30.0	10	4.6	6,600	7.5
" 1961-65.....	22,137	23.4	7,637	8.1	14,500	15.3	553	25.0	8	3.6	6,674	7.1
1964.....	21,754	22.7	7,721	8.1	14,033	14.6	555	25.5	4	1.8	6,796	7.1
1965.....	19,976	20.8	7,716	8.0	12,260	12.8	460	23.0	6	3.0	7,012	7.3
1966.....	18,007	18.7	7,938	8.2	10,069	10.5	383	21.3	2	1.1	7,312	7.6
Saskatchewan—												
Av. 1941-45.....	18,444	21.7	6,437	7.6	12,007	14.1	858	46.5	52	28.1	6,541	7.7
" 1946-50.....	21,907	26.3	6,473	7.8	15,434	18.5	883	40.3	29	13.1	7,413	8.9
" 1951-55.....	23,554	27.5	6,547	7.6	17,007	19.9	743	31.5	16	6.9	6,876	8.0
" 1956-60.....	24,046	26.9	6,753	7.5	17,293	19.4	634	26.3	9	3.8	6,395	7.1
" 1961-65.....	22,811	24.4	7,268	7.8	15,543	16.6	591	25.9	6	2.8	6,316	6.7
1964.....	22,682	24.1	7,373	7.8	15,309	16.3	589	26.0	5	2.2	6,382	6.8
1965.....	20,494	21.5	7,417	7.8	13,077	13.7	503	24.5	9	4.4	6,806	7.2
1966.....	19,037	19.9	7,427	7.8	11,610	12.1	461	24.2	9	4.7	6,587	7.3
Alberta—												
Av. 1941-45.....	18,845	23.7	6,355	8.0	12,490	15.7	827	43.9	46	24.2	7,977	10.0
" 1946-50.....	24,290	28.4	6,814	8.0	17,476	20.4	889	36.6	25	10.5	9,090	10.6
" 1951-55.....	31,087	30.6	7,527	7.4	23,560	23.2	894	28.7	15	5.0	9,750	9.6
" 1956-60.....	36,920	30.6	8,329	6.9	28,591	23.7	640	25.5	13	3.5	10,230	8.5
" 1961-65.....	37,004	26.5	9,317	6.7	27,687	19.8	917	24.8	10	2.6	10,581	7.6
1964.....	36,169	25.3	9,482	6.6	26,687	18.7	865	23.9	8	2.2	10,634	7.4
1965.....	32,664	22.5	9,534	6.6	23,130	15.9	785	24.0	4	1.2	11,209	7.7
1966.....	30,592	20.9	9,677	6.6	20,915	14.3	640	20.9	6	1.9	11,879	8.1
British Columbia—												
Av. 1941-45.....	17,705	19.8	9,368	10.5	8,337	9.3	684	38.6	46	26.2	9,535	10.7
" 1946-50.....	25,859	24.0	10,992	10.2	14,867	13.9	868	33.6	31	11.9	11,564	10.7
" 1951-55.....	31,347	25.1	12,233	8.8	19,114	15.3	856	27.3	17	5.4	11,131	8.9
" 1956-60.....	38,930	25.7	13,980	9.2	24,950	16.5	1,011	26.0	16	4.1	11,955	7.9
" 1961-65.....	36,753	21.6	15,236	9.0	21,517	12.6	843	22.9	10	2.7	11,927	7.0
1964.....	35,897	20.7	16,051	9.2	19,846	11.5	818	22.8	2	0.6	12,158	7.0
1965.....	33,666	18.8	15,784	8.8	17,885	10.0	697	20.7	10	3.0	13,639	7.6
1966.....	32,502	17.3	16,290	8.7	16,212	8.6	779	24.0	13	4.0	14,682	7.8
Yukon Territory—												
Av. 1941-45.....	105	21.0	96	19.3	9	1.7	11	100.8	1	57.0	60	12.1
" 1946-50.....	254	31.7	91	11.4	163	20.3	16	63.0	--	15.8	73	9.1
" 1951-55.....	413	43.0	90	9.4	323	33.6	22	52.8	--	4.8	94	9.8
" 1956-60.....	505	39.4	91	7.1	414	32.3	22	43.6	--	4.0	109	8.5
" 1961-65.....	509	33.9	87	5.8	422	28.1	21	42.0	--	7.9	107	7.1
1964.....	514	32.1	87	5.4	427	26.7	20	38.9	--	--	94	5.9
1965.....	428	28.5	100	6.7	328	21.8	21	49.1	--	--	108	7.2
1966.....	369	25.7	82	5.7	287	20.0	20	54.2	--	--	94	6.5
Northwest Territories—												
Av. 1941-45.....	383	31.9	332	27.7	51	4.2	72	188.5	2	47.0	95	7.9
" 1946-50.....	626	39.1	372	23.2	254	15.9	87	138.7	3	54.3	139	8.7
" 1951-55.....	666	40.1	284	17.1	382	23.0	78	117.1	2	36.0	115	6.9
" 1956-60.....	943	46.7	310	15.3	633	31.4	135	143.2	3	29.7	155	7.7
" 1961-65.....	1,174	48.5	250	10.3	924	38.2	109	92.9	1	5.1	154	6.4
1964.....	1,266	50.6	216	8.6	1,050	42.0	88	69.5	--	--	173	6.9
1965.....	1,191	47.6	198	7.9	993	39.7	76	63.8	1	8.4	138	5.5
1966.....	1,158	40.3	229	8.0	929	32.3	90	77.7	1	8.6	182	6.3
Canada—⁶												
Av. 1941-45.....	277,320	23.5	115,572	9.8	161,748	13.7	15,176	54.7	793	29.0	114,091	9.7
" 1946-50.....	355,748	27.4	120,438	9.3	235,310	18.1	15,723	44.2	527	14.9	126,898	9.8
" 1951-55.....	416,334	28.0	126,666	8.5	289,668	19.5	14,552	35.0	353	8.5	128,915	8.7
" 1956-60.....	469,555	27.6	136,669	8.0	332,886	19.6	13,953	29.7	255	5.4	132,047	7.8
" 1961-65.....	456,534	24.2	145,368	7.7	311,166	16.5	11,836	25.9	169	3.7	134,524	7.1
1964.....	452,915	23.5	145,850	7.6	307,065	15.9	11,169	24.7	137	3.0	138,135	7.2
1965.....	418,595	21.4	148,939	7.6	269,656	13.8	9,862	23.6	135	3.2	145,519	7.4
1966.....	387,710	19.4	149,863	7.5	237,847	11.9	8,960	23.1	135	3.5	155,596	7.8

¹ Excess of births over deaths.² Deaths under one year of age; deaths within the first four weeks of

birth are given on p. 276.

³ Per 1,000 population.⁴ Per 1,000 live births.⁵ Per 10,000 live births.⁶ Figures for Newfoundland are included from 1949.

2.—Summary of Principal Vital Statistics for Incorporated Urban Centres of 20,000 Population or Over,¹ 1965 with Average for 1956-60

NOTE.—Birth, death and natural increase rates cannot be computed for 1965 or the period 1956-60 since urban centre populations are not known for intercensal periods. Figures for certain urban places may not be comparable for the periods shown because of changes in area boundaries, particularly for those indicated by an asterisk (*). Urban centres are designated in this table by the following abbreviations: c.=city, t.=town, vl.=village and d.m.=district municipality.

Province and Urban Centre	Live Births		Deaths		Natural Increase ²		Infant Mortality ³				Neonatal Mortality ⁴				Marriages ⁵	
	Av. 1956-60	No.	Av. 1956-60	No.	Av. 1956-60	No.	Av. 1956-60	Rate ⁶	No.	Rate ⁶	Av. 1956-60	Rate ⁶	No.	Rate ⁶	Av. 1956-60	No.
Newfoundland—																
Corner Brook, c.....	940	764	127	115	813	649	36.4	11	14.4	14.4	21.5	7	9.2	210	191	
St. John's, c.....	2,010	1,915	521	631	1,489	1,284	28.2	40	20.9	20.9	21.8	29	15.1	689	762	
Prince Edward Island—																
Charlottetown, c. ⁷	456	368	210	253	246	115	36.0	18	48.9	48.9	24.6	10	27.2	172	162	
Nova Scotia—																
Dartmouth, c.....	881	1,573	136	206	745	1,367	24.1	37	23.5	23.5	16.3	24	15.3	177	306	
Glace Bay, t.....	623	528	219	228	404	300	44.3	23	43.6	43.6	26.0	19	36.0	181	181	
Halifax, c.....	2,441	1,860	762	737	1,679	1,123	27.6	39	21.0	21.0	17.0	30	16.1	1,112	1,000	
Sydney, c.....	950	781	259	327	691	454	13.7	16	20.5	20.5	8.4	12	15.4	275	275	
New Brunswick—																
Moncton, c.....	1,056	897	276	315	780	582	22.4	14	15.6	15.6	14.4	10	11.1	348	352	
Saint John, c.....	1,499	1,293	589	573	910	720	27.0	32	24.7	24.7	17.9	17	13.1	532	499	
Quebec—																
Cap de la Madeleine, c.....	723	560	152	166	571	394	32.4	25	44.6	44.6	22.1	21	37.5	204	214	
Chicoutimi, c.....	1,004	791	188	297	816	624	46.4	24	30.3	30.3	29.7	18	22.8	223	297	
Drummondville, c.....	1,746	611	187	297	559	314	43.2	77	126.0	126.0	25.5	28	45.8	242	265	
Granby, c.....	877	791	180	214	697	577	27.8	20	25.3	25.3	18.7	14	17.7	253	296	
Hull, c.....	1,742	1,465	385	409	1,357	1,056	39.2	61	41.6	41.6	24.2	45	30.7	429	402	
Jacques Cartier, c.....	1,233	1,226	202	269	1,031	1,057	36.0	35	28.5	28.5	21.4	27	22.0	193	274	
Jonquière, c.....	1,992	724	138	163	854	561	34.9	14	16.4	16.4	20.8	13	18.0	201	250	
LaSalle, c.....	886	852	274	263	612	589	21.7	14	16.3	16.3	12.4	14	12.7	95	146	
Laval, c.....	858	1,101	155	256	703	845	18.2	18	18.0	18.0	15.7	48	12.3	361	752	
Longueuil, c.....	2,840	3,895	446	734	2,394	3,161	22.9	70	18.2	18.2	15.8	5	9.1	171	222	
Montreal, c.....	682	548	136	217	546	431	22.9	10	18.2	18.2	19.4	404	16.7	11,163	10,739	
Montreal North, c.....	29,478	24,191	10,241	10,233	19,237	13,958	28.0	549	22.7	22.7	19.0	20	13.7	132	257	
Mount Royal, t.....	1,128	1,460	192	936	936	1,123	28.1	26	17.8	17.8	14.5	1	5.1	160	207	
Outremont, c.....	337	330	96	123	180	73	21.0	2	10.2	10.2	17.8	3	9.1	273	180	
Pointe aux Trembles, c.....	510	556	120	219	390	337	35.7	16	23.8	23.8	21.2	11	19.8	82	138	

SUMMARY OF VITAL STATISTICS

253

	448	373	111	152	337	221	18.8	5	13.4	11.6	3	8.0	80	136
Pointe Claire, c.....														
Quebec, c.....	4,345	3,144	1,569	1,663	2,776	1,481	39.1	74	23.5	22.9	61	19.4	1,656	1,529
St. Foy, c.....	729	1,027	88	193	641	834	21.1	12	11.7	15.6	8	7.8	59	188
St. Hyacinthe, c.....	490	471	236	317	254	154	46.9	13	11.7	19.6	11	23.4	208	236
St. Jean, c.....	777	549	162	187	615	362	26.5	15	27.3	16.0	15	20.0	207	254
St. Jérôme, c.....	661	657	150	174	511	483	34.5	22	33.5	24.5	11	22.8	219	270
St. Laurent, c.....	1,132	1,077	233	295	899	782	19.3	16	14.9	13.2	11	10.2	212	308
St. Michel, c.....	1,533	2,246	158	261	1,375	1,985	25.9	31	13.8	16.8	20	8.9	128	312
Shawinigan, c.....	1,882	513	186	180	696	333	43.1	15	23.2	32.9	13	25.3	238	211
Sherrbrooke, c.....	1,771	1,757	482	640	1,289	1,117	29.5	42	29.3	16.3	37	21.1	515	642
Therford Mines, c.....	668	435	138	159	530	276	35.4	16	36.8	18.3	30	20.7	146	195
Trois-Rivières, c.....	1,512	1,194	405	430	1,107	764	34.5	37	31.0	22.0	30	25.1	459	468
Valleyfield, c.....	1,791	571	196	186	595	385	34.9	21	36.8	21.7	14	24.5	239	247
Verdun, c.....	1,823	1,385	617	612	1,206	773	22.7	44	31.8	16.0	33	23.8	620	531
Westmount, c.....	252	216	275	223	—23	—7	23.0	7	32.4	16.7	3	13.9	379	283
Ontario—														
Barrie, c.....	572	478	158	211	414	267	28.3	6	12.6	21.0	4	8.4	197	199
Belleville, c.....	645	635	229	293	416	342	23.3	12	18.9	17.1	10	15.7	246	302
Brantford, c.....	1,213	1,238	498	558	715	680	22.3	26	21.0	16.3	19	15.3	464	533
Burlington, t.....	719	1,295	149	297	570	998	15.6	24	18.5	12.0	18	13.9	148	282
Chatham, c.....	649	733	251	288	398	445	27.1	18	24.6	21.9	13	17.7	272	278
Cornwall, c.....	1,162	953	310	362	852	591	32.7	24	25.2	23.1	17	17.8	361	388
Eastview, t.....	975	857	119	136	856	721	22.1	18	21.0	16.8	15	17.5	167	186
Forest Hill, vl.....	234	265	151	188	83	77	16.2	5	18.9	10.2	5	18.9	18	10
Fort William, c.....	1,063	918	343	413	720	505	23.7	18	19.6	18.6	16	17.4	384	355
Galt, c.....	594	745	235	243	359	502	18.9	14	18.8	14.1	12	14.7	221	293
Guelph, c.....	987	955	332	395	655	560	24.1	21	22.0	17.8	14	16.1	343	406
Hamilton, c.....	6,544	6,163	2,240	2,529	4,304	3,634	21.4	117	19.0	15.2	96	15.6	2,413	2,647
Kingston, c.....	1,358	1,230	487	512	871	718	25.0	38	18.9	17.5	23	18.7	485	599
Kitchener, c.....	1,783	2,123	513	603	1,270	1,520	20.8	40	18.8	16.8	26	12.2	581	738
London, c.....	2,573	3,696	1,090	1,500	1,483	2,196	27.7	73	19.8	19.0	54	14.6	1,248	1,542
Niagara Falls, c.....	1,296	1,055	400	483	896	572	23.4	15	14.2	17.7	12	11.4	465	478
North Bay, c.....	723	520	188	236	535	284	23.8	12	23.1	14.9	10	19.2	280	236
Oakville, c.....	263	1,075	80	223	183	852	23.5	15	14.0	18.2	10	9.3	128	312
Oshawa, c.....	1,592	1,804	361	460	1,231	1,344	24.4	30	16.6	18.3	27	15.0	471	612
Ottawa, c.....	5,938	5,345	2,170	2,949	3,768	2,996	24.6	147	17.7	17.7	102	19.1	2,139	2,390
Peterborough, c.....	1,138	1,018	414	453	724	565	26.0	17	16.7	20.4	13	12.8	399	451
Port Arthur, c.....	1,054	851	394	471	660	380	23.3	20	23.5	16.1	15	17.6	390	424
St. Catharines, c.....	2,031	1,865	640	754	1,451	1,111	22.3	44	23.6	18.1	38	20.4	638	781
St. Thomas, c.....	428	411	244	281	184	130	21.0	11	26.8	15.9	8	19.5	203	238
Sarnia, c.....	1,406	1,071	339	353	1,067	718	22.9	22	20.5	17.1	18	16.8	353	338
Sault Ste. Marie, c.....	1,163	1,772	309	448	854	1,394	21.8	37	30.9	15.5	27	15.2	511	543
Stratford, c.....	1,438	394	231	254	207	140	18.7	13	23.0	14.1	9	22.8	186	177
Sudbury, c.....	1,821	2,076	363	528	1,438	1,548	27.6	40	19.3	20.8	34	16.4	684	722
T. Innings, t.....	801	651	232	257	969	404	34.5	20	39.3	22.5	15	22.7	240	238
Toronto, c.....	15,953	14,251	7,386	6,975	8,567	7,276	23.0	297	20.8	17.3	220	15.4	11,800	11,280
Waterloo, c.....	492	668	133	140	359	528	23.2	10	15.0	16.3	9	13.5	126	217
Wellesley, c.....	390	801	161	353	229	448	22.5	16	20.0	15.4	10	12.5	268	361
Windsor, c.....	2,825	2,607	1,168	1,297	1,667	1,310	26.9	60	23.0	20.5	46	17.6	1,319	1,391
Woodstock, c.....	457	458	188	184	289	174	22.6	5	10.9	15.2	4	8.7	175	184

For footnotes, see end of table, p. 254.

2.—Summary of Principal Vital Statistics for Incorporated Urban Centres of 20,000 Population or Over,¹
1965 with Average for 1956-60—concluded

Province and Urban Centre	Live Births		Deaths		Natural Increase ²		Infant Mortality ³		Neonatal Mortality ⁴		Marriages ⁵	
	Av. 1956-60	No.	Av. 1956-60	No.	Av. 1956-60	No.	Av. 1956-60	Rate ⁶	No.	Rate ⁶	Av. 1956-60	No.
Manitoba—												
Brandon, c.....	680	533	228	260	452	273	22.1	16	30.0	16.8	248	259
Kildonan East, c.....	600	485	126	155	474	330	21.3	2	20.6	16.7	106	193
Kildonan West, c.....	386	317	99	137	287	180	13.0	0	6.3	10.4	50	78
St. Boniface, c.....	962	900	305	324	657	576	23.3	14	15.6	16.6	280	349
St. James, c.....	715	494	210	250	505	244	21.7	8	16.2	16.4	214	259
St. Vital, c.....	618	607	166	168	462	439	23.1	10	16.5	16.2	110	174
Winnipeg, c.....	6,169	5,301	2,633	2,728	3,536	2,573	26.2	105	19.8	19.5	2,847	2,674
Saskatchewan—												
Moose Jaw, c.....	909	677	323	340	586	337	20.7	13	19.2	15.8	296	301
Prince Albert, c.....	642	604	173	211	469	393	29.6	14	23.2	20.6	13	244
Regina, c.....	2,922	3,038	681	821	2,241	2,217	23.3	87	28.6	17.5	1,004	1,081
Saskatoon, c.....	2,504	2,562	650	807	1,854	1,755	20.8	39	15.2	16.2	876	985
Alberta—												
Calgary, c.....	7,224	7,396	1,603	2,117	5,621	5,279	22.7	165	22.3	16.3	2,239	2,694
Edmonton, c.....	9,705	8,819	1,747	2,185	7,958	6,634	21.8	200	22.7	16.0	3,157	3,361
Lethbridge, c.....	897	666	249	281	764	385	21.9	12	18.0	18.3	382	378
Medicine Hat, c.....	586	417	211	250	375	167	22.9	11	26.4	14.7	271	267
British Columbia—												
Burnaby, d.m.....	2,477	1,881	719	812	1,758	1,069	20.1	37	19.7	14.4	498	624
Coquitlam, d.m.....	642	695	110	160	532	535	19.6	9	12.9	14.0	59	134
New Westminster, c.....	679	577	342	386	337	191	18.8	0	17.3	13.4	5	558
North Vancouver, c.....	626	501	195	233	431	268	20.4	6	12.0	14.0	160	178
North Vancouver, d.m.....	920	784	188	236	732	548	17.0	11	14.0	10.4	7	94
Richmond, d.m.....	1,055	951	178	224	877	727	18.4	15	15.8	12.5	11	116
Saanich, d.m.....	1,026	992	384	418	642	574	18.5	8	8.1	13.6	7	130
Surrey, d.m.....	1,709	1,511	451	560	1,254	951	18.4	25	16.5	13.0	17	256
Vancouver, c.....	8,211	6,281	4,580	4,860	3,631	1,421	21.0	107	17.0	15.1	72	350
Victoria, c.....	1,236	851	494	582	742	657	23.8	26	30.6	16.2	4,568	4,244
West Vancouver, d.m.....	404	322	183	249	221	73	22.8	3	9.3	16.3	121	217

¹ As at the date of the 1961 Census; residents only.

² Excess of births over deaths.

³ Deaths under one year of age.

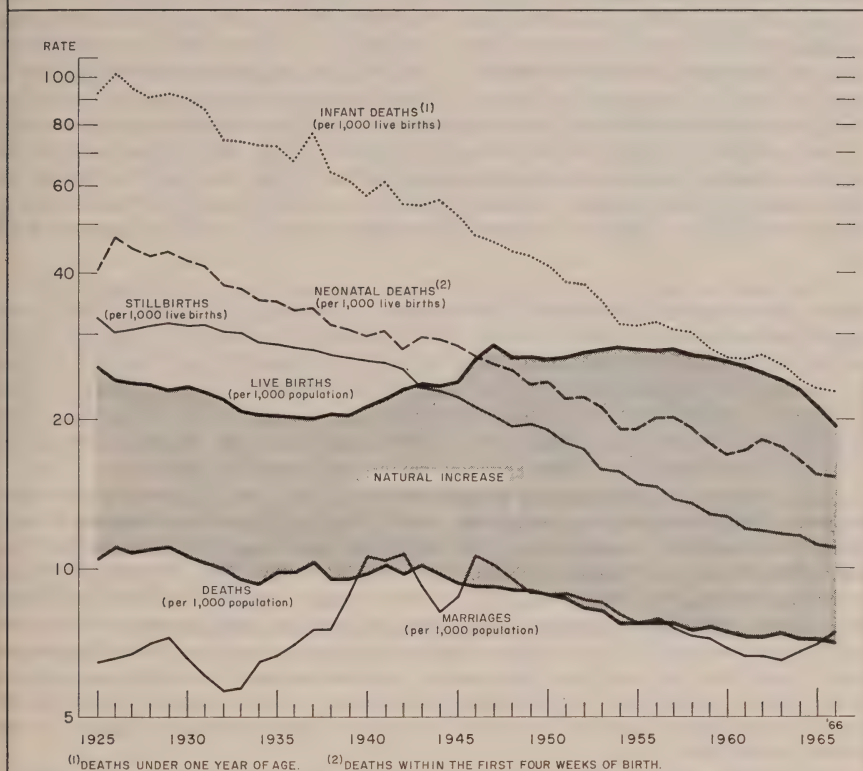
⁴ Deaths under 28 days.

⁵ By place of occurrence.

⁶ Per 1,000 live births.

⁷ Population fewer than 20,000 at date of 1961 Census but included as the largest urban centre in Prince Edward Island.

VITAL STATISTICS RATES, 1925-66



Section 2.—Births*

No accurate figures on Canadian crude† birth rates are available prior to 1921, when the annual collection of official national figures was initiated. However, the following rough estimates of the average annual crude rates for each ten-year intercensal period between 1851 and 1921 may be inferred from studies of early Canadian census data:—

Intercensal Period	Estimated Average Annual Crude Birth Rate (per 1,000 Population)	Intercensal Period	Estimated Average Annual Crude Birth Rate (per 1,000 Population)
1851-61.....	45	1891-1901.....	30
1861-71.....	40	1901-11.....	31
1871-81.....	37	1911-21.....	29
1881-91.....	34		

* Unless otherwise indicated, "births" in this Section refer to infants born alive; stillbirths are dealt with under a separate heading on pp. 263-265 and under multiple births on pp. 258-259. For international comparisons, see Section 7, pp. 289-290.

† A crude rate is one based on the total population.

The general trend in the national crude birth rate (i.e., per 1,000 total population) since 1925 is shown in the chart on p. 255 and since 1941 in Table 1. The annual rates declined gradually but steadily from 29.3 in 1921 to a record low of 20.1 in 1937, recovered sharply in the late 1930s and during World War II to 24.3 in 1945, and in the two years following the War rose to a postwar high of 28.9 in 1947. Between 1948 and 1959 the rate remained remarkably stable at between 27.1 and 28.5 but has since been declining and in 1966 reached 19.4, the lowest on record. Part of this decline is attributable to the fact that the crude birth rate is based on *total* population, which now includes larger proportions of 'non-productive' population, as well as to the fact that the large, immediate postwar cohorts of married women are now approaching the end of their reproductive periods and have completed their families. Further, even if the annual number of births were to remain stable, the net effect of an increase in population would be a declining crude birth rate.

The rates in most provinces followed trends very similar to the national trend but showed some regional differences in recent years. Although all provinces had record high rates immediately following World War II, average birth rates in Ontario and the western provinces were higher during the 1951-55 period than during 1946-50 and those for Quebec and the Maritimes were lower than during 1946-50. In fact, Ontario, Alberta and British Columbia had record high crude birth rates during the 1956-60 period. However, in 1966 most of the provinces recorded their lowest rate since the early years of the War, but Nova Scotia, New Brunswick and Quebec had *record* low rates.

It is often erroneously assumed that the Province of Quebec has not only the largest number of births annually but the highest rate in Canada. Since the late 1930s or early 1940s Newfoundland, in some years New Brunswick and, since 1953, Alberta have had higher birth rates than Quebec. Table 1, pp. 250-251, shows that six provinces—Newfoundland, Alberta, New Brunswick, Prince Edward Island, Nova Scotia and Saskatchewan, in that order, had higher crude rates than Quebec or Ontario in 1966, followed by Manitoba and British Columbia. However, since these crude rates are based on the *total* population they do not reflect the fertility of the women of reproductive ages in the different provinces or the number married within these reproductive ages. A more accurate measure of the true birth rate is one based on the number of married women between the ages of 15 and 45 (see pp. 259-261).

Also contrary to popular impression, since 1953 more babies were born each year in Ontario than in the Province of Quebec; in 1966, 131,942 babies were born to Ontario mothers as compared with 109,878 to Quebec mothers. Altogether, 387,710 children were born alive in Canada in 1966, 91,565 fewer than the record 479,275 born in 1959 and 30,885 fewer than the number born during 1965.

Sex of Live Births.—With rare exceptions, wherever birth statistics have been collected they have shown an excess of male over female births. No conclusive explanation of this excess has yet been given. Nevertheless, it is so much an accepted statistical fact that a proper ratio of male to female births has become one of the criteria of complete registration. The number of males to every 1,000 females born in Canada has averaged around 1,057 since the middle 1930s. Provincial sex ratios vary much more widely because of the relatively small number of births involved—the smaller the total number of births, the greater the chance of wide sex-ratio variations from year to year. Another commonly acknowledged fact in many countries—although there is no generally accepted explanation for it—is that the male ratio appears to rise during or shortly after major wars. This seems to have happened in Canada between 1942 and 1945 when the ratio rose to an average of 1,064 during these four years as compared with averages of 1,054 between 1931-41 and 1,056 since 1946. In 1966, 1,054 male infants were born for every 1,000 females.

3.—Sex Ratios of Live Births, 1941-66

NOTE.—Figures for Newfoundland are included from 1949 and those for the Yukon and Northwest Territories from 1950.

Year	Males	Females	Males to 1,000 Females	Year	Males	Females	Males to 1,000 Females
	No.	No.	No.		No.	No.	No.
1941.....	131,175	124,142	1,057	1959.....	246,073	233,202	1,055
1951.....	195,918	185,174	1,058	1960.....	246,029	232,522	1,058
1952.....	208,070	195,489	1,064	1961.....	244,403	231,297	1,057
1953.....	214,423	203,461	1,054	1962.....	240,870	228,823	1,053
1954.....	224,168	212,030	1,057	1963.....	238,865	226,902	1,053
1955.....	227,382	215,555	1,055	1964.....	232,657	220,258	1,056
1956.....	231,697	219,042	1,058	1965.....	215,112	203,483	1,057
1957.....	241,073	228,020	1,057	1966.....	198,928	188,782	1,054
1958.....	241,675	228,443	1,058				

Hospitalized Births.—In 1966, 99.2 p.c. of all Canadian births occurred in hospitals as compared with 88.4 p.c. ten years previously. Table 4 shows the rise in hospitalized births in each province since 1941. Before the initiation in 1958 of the federal-provincial hospital insurance programs—in which all provinces were participating by 1961—there were rather wide variations among the provinces in percentages of hospitalized births. Such variations were caused by the existence of prepaid or provincially sponsored hospital, maternity or medical care plans in some provinces, the unavailability of hospital facilities in others—particularly in remote rural areas—and preference for home delivery in some local areas. Although some variation still exists, the operation of the hospital insurance program has probably been responsible for the noticeable increases in hospitalized births in provinces that previously had lower proportions, for example, in New Brunswick where the hospital insurance plan was put into effect on July 1, 1959, and in Quebec where the plan went into effect in 1961.

4.—Percentages of Live Births Hospitalized, by Province, 1941-66

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada ¹
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1941....	32.7	50.4	30.8	17.6	67.5	73.6	63.2	77.1	87.3	..	..	48.9
1951....	88.3	87.2	70.7	53.0	93.1	93.1	95.2	93.6	97.3	87.4	32.8	79.1
1956....	95.2	93.9	84.7	71.2	97.3	95.8	97.6	96.6	98.3	87.7	44.6	88.4
1957....	96.7	95.1	86.8	75.6	97.9	96.4	98.3	97.5	98.5	91.3	38.6	90.2
1958....	99.0	96.2	88.5	79.3	98.0	96.8	98.5	97.7	98.5	92.6	42.1	91.7
1959....	99.2	98.0	93.5	82.3	98.6	97.4	98.5	98.0	98.6	88.6	45.7	93.1
1960....	99.4	98.6	97.7	85.2	99.0	98.0	99.0	98.5	98.8	93.3	51.7	94.6
1961....	99.3	98.9	99.0	92.3	99.3	98.2	98.8	98.6	98.9	92.8	57.1	96.9
1962....	99.6	99.2	99.4	95.0	99.4	98.5	98.8	98.7	98.9	95.4	55.9	97.8
1963....	99.8	99.3	99.4	96.5	99.6	98.2	99.1	98.9	99.1	93.0	64.3	98.3
1964....	99.5	99.4	99.7	97.6	99.6	98.7	98.9	99.0	99.0	94.4	61.3	98.7
1965....	99.9	99.4	99.7	98.4	99.6	98.8	99.3	99.0	99.2	94.9	68.1	99.0
1966....	99.8	99.6	99.8	98.8	99.7	98.9	99.3	99.0	99.2	93.2	77.6	99.2

¹ Excludes Newfoundland for which data are not available.

Births in Urban Centres.—Table 2, pp. 252-254, shows the number of births in 1965, as compared with the average for 1956-60, to mothers residing in each urban centre of 20,000 population or over in 1961. Because the populations of urban centres are not known for intercensal years, birth rates cannot be computed for the 1956-60 period or for 1962-65.

Illegitimacy.*—In 1966, 7.6 p.c. of the live births in Canada were illegitimate. This percentage is low compared with that of many countries of the world but has been rising recently, as shown in Table 5.

5.—Illegitimate Live Births and Percentages of Total Live Births, by Province, 1941-66

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada ¹
ILLEGITIMATE LIVE BIRTHS													
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Av. 1941-45	406	107	1,074	591	3,003	3,751	597	673	852	889	..	..	11,536
" 1946-50	441	152	1,244	754	3,382	4,256	766	914	1,202	1,516	..	..	14,375
" 1951-55	426	139	1,082	659	4,086	4,065	969	1,044	1,481	1,898	53	50	15,951
" 1956-60	587	139	1,201	687	4,675	4,891	1,166	1,194	1,941	2,505	72	102	19,160
" 1961-65	716	132	1,437	803	5,595	6,519	1,672	1,565	2,786	3,137	91	152	24,605
1964.....	753	114	1,481	887	5,981	7,188	1,846	1,671	2,991	3,393	90	161	26,556
1965.....	773	148	1,520	840	6,223	7,787	1,805	1,772	3,197	3,731	100	182	28,078
1966.....	832	145	1,551	882	6,366	8,476	1,844	1,923	3,198	3,926	72	176	29,391
PERCENTAGES OF TOTAL LIVE BIRTHS													
Av. 1941-45	4.4	4.9	7.1	4.5	3.1	4.8	3.8	3.6	4.5	5.0	..	..	4.2
" 1946-50	3.6	5.3	6.9	4.5	2.9	4.0	4.0	4.2	4.9	5.9	..	..	4.1
" 1951-55	3.2	5.1	5.9	4.0	3.2	3.2	4.5	4.4	4.8	6.1	12.9	7.5	3.8
" 1956-60	3.9	5.2	6.3	4.1	3.3	3.2	5.2	5.0	5.3	6.4	14.2	10.8	4.1
" 1961-65	4.7	4.8	7.8	5.1	4.3	4.3	7.6	6.9	7.5	8.5	17.8	13.0	5.4
1964.....	5.1	4.2	8.1	5.8	4.6	4.7	8.5	7.4	8.3	9.5	17.5	12.7	5.9
1965.....	5.2	5.9	9.2	5.9	5.2	5.5	9.0	8.6	9.8	11.1	23.4	15.3	6.7
1966.....	5.9	6.6	10.2	6.9	5.8	6.4	10.2	10.1	10.5	12.1	19.5	15.2	7.6

¹ Figures for Newfoundland are included from 1949 and those for the Yukon and Northwest Territories from 1951.

Multiple Births.—Approximately one confinement in 97 in Canada resulted in the birth of more than one child in 1965 as compared with one in 85 several years ago; in other words, the chances of a confinement resulting in the birth of more than one child are fewer now than formerly. One out of 97 confinements resulted in twins and one out of 13,000 in triplets. Two sets of quadruplets were born in Canada during 1960—the first since 1957—and one set in each of 1962, 1963 and 1964; there were no quadruplets in 1965. In 1965 a total of 419,093 mothers bore a total of 423,464 infants, of which 418,595, or almost 99 out of every 100, were born alive.

Table 6 shows that the proportion of stillbirths is higher among multiple than among single births.

* The term "illegitimate", as used here, does not refer to all births conceived out of wedlock but is necessarily restricted to those in which parents reported themselves as not having been married to each other at the time of birth or registration and, in Ontario, to those in which the marital status of the mother was reported as "single" at the time of birth or registration.

6.—Single and Multiple Births, Live and Stillborn,¹ 1962-65

Confinements and Births	Numbers				Percentages			
	1962 ²	1963 ³	1964 ⁴	1965 ⁵	1962	1963	1964	1965
Confinements.....	470,345	466,537	453,614	419,093	100.0	100.0	100.0	100.0
Single.....	465,136	461,569	448,814	414,754	98.9	98.9	98.9	99.0
Twin.....	5,159	4,930	4,751	4,307	1.1	1.1	1.0	1.0
Triplet.....	49	37	48	32	--	--	--	--
Quadruplet.....	1	1	1	—	--	--	--	—
Births.....	475,605	471,544	458,464	423,464	100.0	100.0	100.0	100.0
Single—								
Live.....	459,539	456,109	443,602	410,123	98.8	98.8	98.8	98.9
Stillborn.....	5,597	5,460	5,212	4,631	1.2	1.2	1.2	1.1
Twin—								
Live.....	10,006	9,553	9,174	8,382	97.0	96.9	96.5	97.3
Stillborn.....	312	307	328	232	3.0	3.1	3.5	2.7
Triplet—								
Live.....	144	104	136	90	98.0	93.7	94.4	93.8
Stillborn.....	3	7	8	6	2.0	6.3	5.6	6.3
Quadruplet—								
Live.....	4	1	3	—	100.0	25.0	75.0	—
Stillborn.....	—	3	1	—	—	75.0	25.0	—
Totals, Live Births.	469,693	465,767	452,915	418,595	98.8	98.8	98.8	98.9
Totals, Stillborn...	5,912	5,777	5,549	4,869	1.2	1.2	1.2	1.1

¹ Unless otherwise indicated, includes only foetuses of 28 or more full weeks gestation.
² Includes 30 stillbirths of 20-27 weeks gestation.
³ Includes 45 stillbirths of 20-27 weeks gestation.
⁴ Includes 29 stillbirths of 20-27 weeks gestation.
⁵ Includes 22 stillbirths of 20-27 weeks gestation.

Fertility Rates.—The sex and age composition of a population is obviously an important factor in determining crude birth, marriage and death rates. Since almost all children born each year are to women between the ages of 15 and 45, variations in the proportion of women of these ages to the total population will cause variations in the crude birth rate of different countries—or of different regions within a country—even though the actual rates of reproduction or *fertility* of the women in these age groups in each country or region are identical.

A more accurate measure of the fertility of a population would be one based on the number of women of reproductive age, that is those 'able' to bear children, and a still more accurate measure would be one based on the number within this group that are married, that is those 'eligible', as it were, to bear children. Each type of rate has its uses, depending on the comparisons required. The two types are compared in Table 7, and indicate the variations in each type as between provinces and the provincial trends over the years 1963-66.

The number of infants born in relation to every 1,000 women in the population between the ages of 15 and 45 has been declining for the past few years, dropping from 121 in 1963 to 93 in 1966. However, the rates varied among the provinces from 86.6 to 169.9 during the past four years; in 1966, Newfoundland, Prince Edward Island, New Brunswick, Saskatchewan, Nova Scotia and Alberta had the highest rates and Quebec, British Columbia, Ontario and Manitoba, the lowest, in order of mention. On the other hand, the average annual number of infants born to every 1,000 *married* women in the country as a whole dropped from 173 to 134 during the same period. According to this measure, the western provinces and Saskatchewan had, on the whole, the highest rates.

7.—Crude Fertility Rates, by Province, 1963-66

Province or Territory	Rates per 1,000 Total Women 15-44 Years of Age ¹				Rates per 1,000 Married Women 15-44 Years of Age ¹			
	1963	1964	1965	1966	1963	1964	1965	1966
Newfoundland.....	169.9	156.7	153.4	149.0	262.2	246.5	245.9	231.3
Prince Edward Island.....	155.2	142.0	128.4	112.1	245.0	229.2	209.6	174.9
Nova Scotia.....	129.4	124.7	112.1	103.7	185.0	180.4	162.7	148.4
New Brunswick.....	134.0	128.9	116.6	106.3	203.2	198.0	181.7	163.1
Quebec.....	113.6	109.0	98.4	86.6	182.5	175.6	158.5	139.2
Ontario.....	118.3	113.7	102.8	91.2	159.3	153.6	138.9	124.7
Manitoba.....	121.9	115.8	106.0	94.7	167.2	158.1	145.8	131.6
Saskatchewan.....	135.4	129.4	115.5	105.8	187.7	180.8	161.4	144.3
Alberta.....	135.9	125.9	112.3	102.4	176.7	163.4	145.0	134.3
British Columbia.....	113.1	104.7	94.7	87.5	147.8	136.9	123.0	113.0
Yukon Territory.....	172.1	165.8	153.5	125.4	..	..	..	144.5
Northwest Territories.....	263.9	275.2	264.7	210.2	..	..	..	269.3
Canada².....	121.0	115.2	104.2	93.4	172.6	165.0	149.3	133.9

¹ Since the number of births to women over 44 is quite small, rates are here restricted to women under 45.

² Excludes the Yukon and Northwest Territories.

The rates shown in Table 7 are *crude* in the sense that they do not take into account differences in fertility in the component age periods within the female reproductive life span, nor the proportions of married women in each age period. It is therefore conventional practice to calculate what are termed *age-specific fertility rates*, i.e., the number of infants born annually to every 1,000 women in *each* of the reproductive age periods, again either for all women or for those who are married. Table 8 provides these two sets of rates—the former for 1941, 1951 and 1956-66 and the latter for 1962-66 in addition to the census years from 1941 to 1961.

Another measure of fertility in a country is obtainable from what is conventionally referred to as a *gross reproduction rate*. The gross reproduction rates shown in Table 8 indicate the average number of female children born each year to each woman living through the child-bearing ages. In other words, this figure represents the average number of females that *would* be born to each woman who lived to age 50 if the fertility rate of the given year remained unchanged during the whole of her child-bearing period. A gross reproduction rate of 1.000 indicates that, on the basis of current fertility and without making any allowance for mortality among mothers during their child-bearing years, the present generation of child-bearing women would exactly maintain itself. Canada has always had one of the highest gross reproduction rates among the industrialized countries of the world. Even during the period of low birth rates in the 1930s the rate varied between 1.300 and 1.500 and since World War II has ranged from 1.640 to a record high of 1.915 in 1959; in 1966 the rate stood at 1.369, still 37 p.c. more than the number required for the population to replace itself. With minor exceptions, provincial reproduction rates are also well above the replacement level.

Table 8 indicates that in 1966, considering all women whether married or not, women in their 20s were the most reproductive, as might be expected; on the average, for every 1,000 women between the ages of 20 and 25, 169 infants were born during that year or expressed another way, about one woman out of six in that age group gave birth to a live

born infant. This compares with a rate of 164 for women in the age group 25-29. However, among married women, teen-age mothers have consistently had the highest fertility, with about one out of two bearing a child in 1966, while more than one out of every four married women in their early 20s had a child as compared with about one in five women in their late 20s.

8.—Age-Specific Fertility Rates per 1,000 Women, by Age Group, 1941-66

(Exclusive of Newfoundland for all years and the Yukon and Northwest Territories for 1941)

Year	Age Group							Gross Reproduction Rate
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
TOTAL WOMEN								
1941.....	30.7	138.4	159.8	122.3	80.0	31.6	3.7	1.377
1951.....	48.1	188.7	198.8	144.5	86.5	30.9	3.1	1.701
1956.....	55.9	222.2	220.1	150.3	89.6	30.8	2.9	1.874
1957.....	60.2	227.1	224.1	149.4	90.7	30.7	2.8	1.907
1958.....	59.2	226.5	223.3	147.9	87.6	28.9	2.7	1.886
1959.....	60.4	233.8	226.7	147.7	87.3	28.5	2.7	1.915
1960.....	59.8	233.5	224.4	146.2	84.2	28.5	2.4	1.893
1961.....	58.2	233.6	215.2	144.9	81.1	28.5	2.4	1.868
1962.....	55.3	232.4	215.6	143.4	77.0	27.5	2.1	1.836
1963.....	53.5	228.2	212.5	140.9	75.7	25.9	2.1	1.800
1964.....	50.6	216.2	206.0	136.0	72.1	25.0	2.1	1.720
1965.....	49.5	192.4	185.3	121.0	66.2	21.8	2.0	1.552
1966.....	48.2	169.1	163.5	103.3	57.5	19.1	1.7	1.369
MARRIED WOMEN								
1941.....	453.1	340.2	237.8	158.3	99.1	38.9	4.5	...
1951.....	498.5	350.4	248.1	168.7	100.6	36.6	3.7	...
1956.....	551.5	381.7	265.5	169.8	101.0	35.6	3.4	...
1961.....	541.2	374.4	255.6	161.4	89.9	32.1	2.8	...
1962.....	544.7	367.8	253.2	159.1	84.9	30.8	2.5	...
1963.....	547.4	356.8	251.9	155.8	83.1	28.8	2.4	...
1964.....	473.0	344.2	243.8	149.8	78.6	27.6	2.4	...
1965.....	433.6	309.2	219.3	133.0	71.6	23.9	2.3	...
1966.....	465.8	280.2	187.3	112.5	62.5	21.0	2.0	...

Age of Parents.—Age of parents is an important variable in any analysis of birth statistics. The distribution of legitimate and illegitimate live births by age of the parents is given in Table 9.

Over 8 p.c. of the legitimate children born in 1965 were born to mothers under 20 years of age, in almost two fifths of the births the mother was under 25 years, and in over two thirds, under 30 years; in over one fifth of the births the father was under 25 years of age, and in over one half of all births the father was under 30 years. On the other hand, almost two fifths of the illegitimate infants were born to mothers under 20 years of age and almost an additional 36 p.c. to mothers under 25 years. The average age of all the married mothers to whom a child was born in 1965 was 27.8, and of the fathers 31.0 years; ten years ago, the average ages of the parents were 28.4 and 31.8, and thirty years ago 29.2 and 33.7, respectively.

The median age of unmarried mothers who bore a live-born child in 1965 was 21.1; that is, half of the mothers of the 27,305 'illegitimate' children delivered in 1965 were under 21.2 years of age.

9.—Live Births, by Age of Parents, 1965

(Exclusive of Newfoundland)

Age Group	Legitimate				Illegitimate	
	Fathers		Mothers		Mothers	
	No.	p.c.	No.	p.c.	No.	p.c.
Under 20 years.....	5,122	1.4	31,170	8.3	10,570	39.4
Under 15 years.....	—	—	27	—	169	0.6
15 years.....	—	—	261	0.1	538	2.0
16 ".....	18	—	1,481	0.4	1,428	5.3
17 ".....	243	0.1	4,686	1.2	2,373	8.9
18 ".....	1,484	0.4	10,189	2.7	3,090	11.5
19 ".....	3,377	0.9	14,526	3.9	2,972	11.1
20—24.....	72,798	19.4	117,768	31.3	9,525	35.5
25—29.....	110,153	29.3	103,979	27.6	3,469	12.9
30—34.....	89,415	23.8	69,421	18.4	1,827	6.8
35—39.....	56,861	15.1	40,068	10.6	1,030	3.8
40—44.....	27,602	7.3	13,032	3.5	346	1.3
45—49.....	9,881	2.6	1,018	0.3	27	0.1
50 years or over.....	4,037	1.1	15	—	—	—
Totals, Stated Ages.....	375,869	100.0	376,471	100.0	26,794	100.0
Ages not stated.....	681	...	79	...	511	...
Totals, All Ages.....	376,550	100.0	376,550	100.0	27,305	100.0
Average ages..... yrs.	31.0		27.8		23.2	
Median ages ¹ "	30.0		26.7		21.1	

¹ The age above and below which half of the births occurred.

Order of Birth.—Table 10 shows the order of birth of all live-born infants in 1965 according to the age of the mother. As would be expected, 32,698, or over three fourths of the 41,740 infants born to mothers under 20 years of age, were the first live-born child, whereas almost 11 out of every 20 of the children born to mothers of 20-24 years were their second or later live-born child. In 1965, 196 infants were born to mothers who had not yet reached their 15th birthday.

10.—Order of Birth of Live-Born Children, by Age of Mother, 1965

(Exclusive of Newfoundland)

Order of Birth of Child	Age of Mother										Percentage of Total
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 or Over	Age Not Stated	All Ages	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
1st child.....	194	32,504	57,615	20,731	6,671	2,550	599	29	486	121,379	30.1
2nd ".....	2	7,537	41,081	30,222	11,967	4,457	945	43	28	96,342	23.6
3rd ".....	—	1,276	18,387	25,439	15,547	6,442	1,490	66	14	68,661	17.0
4th ".....	—	154	7,029	15,428	13,131	6,922	1,752	110	15	44,541	11.0
5th ".....	—	13	2,286	7,910	8,795	5,656	1,664	118	3	26,445	6.6
6th ".....	—	—	654	4,187	5,899	4,249	1,398	102	4	16,493	4.2
7th ".....	—	—	198	2,020	3,680	3,109	1,200	978	85	6,630	1.6
8th ".....	—	—	34	951	2,327	2,252	978	85	3	4,414	1.1
9th ".....	—	—	6	362	1,506	1,674	771	94	1	2,978	0.7
10th ".....	—	—	2	125	822	1,305	661	63	—	2,051	0.5
11th ".....	—	—	1	48	474	940	518	69	1	1,369	0.3
12th ".....	—	—	—	14	254	654	400	42	—	902	0.2
13th ".....	—	—	—	3	106	445	306	42	—	533	0.1
14th ".....	—	—	—	—	37	214	254	28	—	338	0.1
15th ".....	—	—	—	—	17	112	184	25	—	206	0.0
16th ".....	—	—	—	—	11	59	117	19	—	114	—
17th ".....	—	—	—	—	—	35	70	9	—	48	—
18th ".....	—	—	—	—	—	8	32	8	—	27	—
19th ".....	—	—	—	—	—	5	19	3	—	31	—
20th or over.....	—	—	—	—	—	6	17	8	—	52	—
Not stated.....	—	—	—	8	4	4	3	—	33	—	—
Totals.....	196	41,544	127,293	107,448	71,248	41,098	13,378	1,060	590	403,855	100.0

Table 11 summarizes the pattern of family formation since 1941.

11.—Percentage Distribution of Legitimate Live Births, by Order of Birth, 1941-66

(Exclusive of Newfoundland)

Year	1st Child	2nd Child	3rd Child	4th and Later Children	Total
1941.....	32.7	21.8	13.5	32.0	100.0
1951.....	26.7	25.8	17.6	29.9	100.0
1956.....	25.2	24.3	18.3	32.2	100.0
1957.....	25.6	23.9	18.3	32.2	100.0
1958.....	25.4	23.8	18.2	32.6	100.0
1959.....	24.8	24.0	18.2	32.9	100.0
1960.....	24.5	23.8	18.5	33.1	100.0
1961.....	24.1	23.6	18.5	33.8	100.0
1962.....	24.0	23.7	18.4	33.9	100.0
1963.....	24.3	23.6	18.5	33.6	100.0
1964.....	25.0	23.8	18.3	32.9	100.0
1965.....	27.1	24.3	17.6	31.0	100.0
1966.....	29.9	25.5	16.9	27.6	100.0

Birthweight.—Excluding Newfoundland, information on birthweight of newborn infants has recently become available from provincial records of birth. These data, in addition to their usefulness in calculating the average weights of newborn infants, are of importance from the public health and medical points of view in throwing light on the number of immaturely developed foetuses that are delivered alive. According to criteria recommended by the World Health Organization, infants of 5½ lb. or less at birth are considered 'immature' and hence exposed to a much greater risk of dying than those over this weight. Weight at birth depends on a host of maternal factors, most of which are not included in the birth records, but some information is available on the age of the mother and length of pregnancy before delivery.* Analysis of this information shows that (1) there are variations in average weight according to the age of the mother, (2) women under 20 and over 35 tend to produce higher proportions of immature infants, so that the late 20s and early 30s would appear to be the ideal ages for motherhood, and (3) almost all infants of less than 28 weeks gestation are delivered 'immature' according to the definition. The average single male infant born at full term weighs about 7½ lb. at birth and the average female about 4 oz. less.

Stillbirths.†—The 4,429 stillbirths of at least 28 weeks gestation that were delivered in 1966 represented a ratio of 11.4 for every 1,000 foetuses born alive. As is evident from Table 12, the stillbirth rate has been decreasing steadily and has been cut by more than half over the past quarter-century. Although the variations between provincial rates have never been wide, rates in some provinces have been reduced more than in others. The stillbirth rate among unmarried mothers has been consistently higher than that among married mothers but the difference is narrowing.

* Obtainable from the Vital Statistics Section, DBS.

† Stillbirth figures given here refer only to foetuses of 28 or more weeks gestation which "showed no sign of life". Up to the end of 1963, only foetuses delivered after at least 28 weeks pregnancy which showed no sign of life were required to be registered with the provincial authorities; as of Jan. 1, 1964, all provinces (except Newfoundland) provide for the compulsory registration of all stillbirths of 20 or more weeks gestation, a 'stillbirth' being defined as "the complete expulsion or extraction from its mother, after at least 20 weeks pregnancy, of a product of conception in which, after such expulsion or extraction, there is no breathing, beating of the heart, pulsation of the umbilical cord, or unmistakable movement of voluntary muscle". Available data for stillbirths of 20-27 weeks pregnancy are not shown here but are obtainable from the Vital Statistics Section, DBS.

12.—Stillbirths and Ratios per 1,000 Live Births, by Province, 1941-66

Year	Born to All Mothers													Born to Unmarried Mothers ¹	
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N. W. T.	Can-ada ²	No.	P.C. of Total
NUMBERS (28 WEEKS OR MORE GESTATION)															
Av. 1941-45	191	50	388	295	2,786	1,988	345	348	327	309	1	6	6,845	355	5.20
" 1946-50	215	54	358	320	2,898	2,020	349	350	385	352	2	8	7,187	343	4.85
" 1951-55	222	52	337	291	2,705	2,017	336	313	425	374	6	11	7,088	316	4.60
" 1956-60	274	46	304	267	2,446	1,992	301	262	388	418	5	12	6,714	291	4.51
" 1961-65	261	47	256	220	1,727	1,818	278	242	358	370	5	19	5,600	327	6.12
1964.....	255	46	260	216	1,644	1,790	285	248	373	373	7	23	5,520	346	6.57
1965.....	254	35	203	188	1,438	1,631	258	204	290	323	4	19	4,847	348	7.58
1966.....	188	34	212	174	1,301	1,554	193	172	280	301	2	18	4,429	345	8.13
RATIOS														Ratio per 1,000 Illegitimate Live Births ¹	
Av. 1941-45	20.5	22.8	25.6	22.6	28.5	25.6	21.8	18.9	17.4	17.5	11.4	15.7	24.7	30.8	
" 1946-50	17.4	18.9	19.9	19.0	25.1	19.2	18.1	16.0	15.9	13.6	8.7	12.5	20.2	24.2	
" 1951-55	17.0	19.0	18.4	17.7	21.0	15.6	15.7	13.3	13.7	11.9	14.1	16.5	17.0	20.3	
" 1956-60	18.3	17.1	15.9	16.1	17.5	13.0	13.4	10.9	10.5	10.7	10.7	12.3	14.3	15.6	
" 1961-65	17.3	17.1	13.8	14.0	13.1	11.9	12.5	10.6	9.7	10.1	9.0	16.0	12.3	13.7	
1964.....	17.4	16.9	14.2	14.1	12.6	11.7	13.1	10.9	10.3	10.4	13.6	18.2	12.2	12.4	
1965.....	17.2	13.9	12.3	13.3	11.9	11.5	12.9	10.0	8.9	9.6	9.3	16.0	11.6	12.7	
1966.....	13.3	15.5	13.9	13.7	11.8	11.8	10.7	9.0	9.2	9.3	5.4	15.5	11.4	12.1	

¹ Exclusive of Newfoundland for all years and the Yukon and Northwest Territories for 1941-50
for Newfoundland are included from 1949.

² Figures

Table 13 illustrates the fact that the risk of having a stillborn child increases with the age of the mother. Although stillbirth ratios for mothers of all ages have been declining, they continue to be three to four times as high for mothers over 40 years of age as for mothers under 30. The average age of mothers who bore stillborn children in 1965 was 29.9 years; the median age was 29.1. The average age of mothers who bore legitimate live-born children was 27.8 and of those who bore illegitimate live-born offspring was 23.2. Causes of stillbirths in 1965 are shown in Table 14.

13.—Stillbirths and Ratios per 1,000 Live Births, by Age of Mother, 1965

(Exclusive of Newfoundland)

Age Group of Mother	Live Births	Stillbirths	Stillbirth Ratio per 1,000 Live Births
	No.	No.	No.
Under 20 years.....	41,740	362	8.7
20-24 ".....	127,293	1,032	8.1
25-29 ".....	107,448	1,082	10.1
30-34 ".....	71,248	883	12.4
35-39 ".....	41,098	765	18.6
40-44 ".....	13,378	396	29.6
45-49 ".....	1,045	55	52.6
50 years or over.....	15	1	66.7
Age not stated.....	590	17	...
Totals, All Ages.....	493,855	4,593	11.4
Average age of mothers..... yrs.	27.5	29.9	...
Median age of mothers ¹ "	26.3	29.1	...

¹ The age above and below which half of the stillbirths occurred.

14.—Stillbirths, by Cause, 1965

International List No.	Cause	Males	Females	Total
		No.	No.	No.
Y 30	Chronic disease in mother.....	63	52	115
Y 31	Acute disease in mother.....	11	10	21
Y 32	Diseases and conditions of pregnancy and childbirth.....	199	159	358
Y 33	Absorption of toxic substance from mother.....	2	—	2
Y 34	Difficulties in labour.....	124	101	225
Y 35	Other causes in mother.....	37	39	76
Y 36	Placental and cord conditions.....	1,059	820	1,879
Y 37	Birth injury.....	31	13	44
Y 38	Congenital malformation of foetus.....	288	363	651
Y 39	Diseases of foetus and ill-defined causes.....	788	688	1,476
	All Causes.....	2,602	2,245	4,847

Section 3.—Deaths*

No official crude† death rates are available prior to 1921, but some indication of these may be obtained from studies of the early censuses as follows:—

<i>Intercensal Period</i>	<i>Estimated Average Annual Crude Death Rate (per 1,000 Population)</i>	<i>Intercensal Period</i>	<i>Estimated Average Annual Crude Death Rate (per 1,000 Population)</i>
1851-61.....	22	1891-1901.....	16
1861-71.....	21	1901-11.....	13
1871-81.....	19	1911-21.....	13
1881-91.....	18		

As is typical of pioneer populations, Canada had a high death rate in the mid-1850s when the country was still in the throes of pioneer settlement. The crude death rate during that period is estimated as between 22 and 25. Although no data are available, it is assumed that, while mortality at all ages was high, the rate among infants, children and young adults must have been particularly high since even in the 1920s mortality in these ages was still quite high. With the gradual increase in population density and in urbanization and improved sanitation and medical services, the crude rate was halved during the 80 years between 1851 and 1930, dropping from about 22 to 11. It declined steadily to slightly over 8 in the late 1950s and dropped to a low of 7.5 in 1966. This is one of the lowest crude death rates in the world.

Table 1, pp. 250-251, shows the trends since 1941 in the provinces and territories. The generally low rates in the Prairie Provinces are partly the result of their younger average population; the uniformly higher rate in British Columbia is attributable mainly to a high proportion of people in the older age groups.

Subsection 1.—General Mortality

Age and Sex Distribution of Deaths.—During the period of national vital statistics (1921 to date), the mortality pattern at all ages has been steeply downward. Of major significance in lowering the over-all death rate were the reductions in infant mortality, in childhood death rates and in those of young adults. In 1931, over 19 p.c. of all male deaths occurred among persons of five to 44 years of age; in 1965, 10.5 p.c. took place in this age group. Among females in the same age group the proportion dropped from just under 22 p.c. in 1931 to 7.5 p.c. in 1965.

* For international comparisons, see Section 7, pp. 289-290.

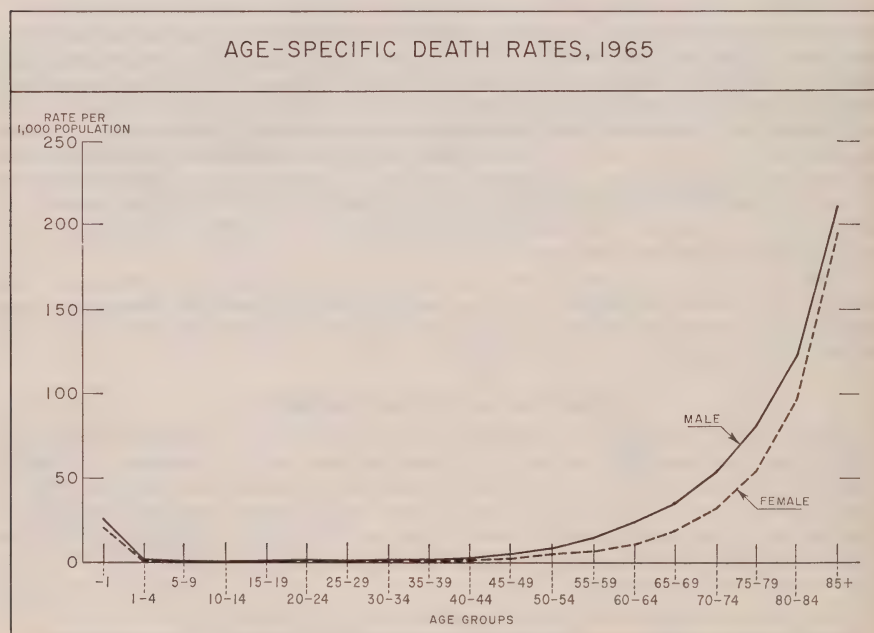
† A crude rate is one based on the total population.

Tables 15 and 16 illustrate the very large reductions in death rates that have taken place since 1931 in each age group of the population. By far the greatest reductions have been among the young of both sexes. However, even though the rates for females at every age have always been consistently lower than those for males, female death rates have been declining faster and the differences are gradually widening. Between 1931 and 1965 the rates for all females dropped by 33.3 p.c. as compared with only 16.2 p.c. for males.

15.—Percentage Change in Death Rates for Each Age Group, 1931 to 1965

Age Group	Males	Females	Age Group	Males	Females
Under 1 year.....	-72.2	-72.0	50-54 years	-8.4	-42.2
1-4 years.....	-83.8	-85.2	55-59 "	-1.9	-43.3
5-9 "	-68.2	-76.5	60-64 "	+6.1	-40.1
10-14 "	-66.7	-80.0	65-69 "	+1.7	-34.7
15-19 "	-52.0	-77.3	70-74 "	-0.2	-32.0
20-24 "	-46.9	-81.2	75-79 "	-6.2	-34.0
25-29 "	-52.9	-81.6	80-84 "	-7.7	-23.9
30-34 "	-51.4	-78.6	85 years or over.....	-7.3	-8.1
35-39 "	-47.6	-72.9			
40-44 "	-35.2	-60.0			
45-49 "	-22.2	-60.0	All Ages.....	-16.2	-33.3

Despite the very considerable reduction that has taken place in infant mortality, more deaths still occur in the first year of life than in any other single year. Of the total deaths occurring in 1931, almost one quarter were of children under five years of age and more than three quarters of those were of children under one year of age; of the deaths occurring in 1965, almost 8 p.c. were of children under five years and of those about 85 p.c. were under one year. Most of the reduction took place among children over the age of one month but there was also a notable decrease in all childhood ages up to five years.



The reductions in the mortality rates in early and middle years of life have had the effect of increasing the number of people in the older age groups and raising the average age at death. In 1931, the average age at death of males was 43.1 years and of females 44.8 years; by 1965 this had advanced to 61.7 years and 65.4 years, respectively. On the other hand, the median age increased during the same period from 50.8 to 68.5 for males, and from 52.1 to 73.4 for females. This means that half of all the females who died during 1965 were over 73.4 years of age, while for males half had reached 68.5 years. Since 1931, the gains in median age were 17.7 years for males and 21.3 for females.

16.—Distribution of Deaths by Age and Sex, 1931, 1941, 1951, 1961 and 1965

Age Group	1931 ¹		1941 ¹		1951		1961		1965	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
NUMBERS										
Under 1 year.....	11,667	8,693	8,788	6,448	8,375	6,298	7,447	5,493	5,626	4,236
1—4 years.....	2,844	2,533	1,878	1,566	1,421	1,151	1,154	844	988	794
5—9 “.....	1,241	963	888	670	711	466	672	405	752	457
10—14 “.....	1,241	806	787	536	461	284	527	278	511	307
15—19 “.....	1,311	1,132	1,118	823	721	457	840	322	1,072	429
20—24 “.....	1,502	1,453	1,332	1,039	1,009	549	969	342	1,213	394
25—29 “.....	1,388	1,414	1,317	1,173	988	660	895	418	936	393
30—34 “.....	1,301	1,432	1,211	1,148	1,070	778	1,041	562	1,040	536
35—39 “.....	1,512	1,574	1,497	1,242	1,281	1,015	1,422	880	1,448	840
40—44 “.....	1,888	1,493	1,744	1,464	1,756	1,266	1,916	1,099	2,161	1,273
45—49 “.....	2,314	1,738	2,416	1,817	2,463	1,607	2,993	1,617	2,986	1,764
50—54 “.....	2,855	1,993	3,355	2,227	3,525	2,083	4,242	2,237	4,763	2,504
55—59 “.....	3,057	2,246	4,394	2,851	4,741	2,832	5,494	2,749	6,118	3,016
60—64 “.....	3,583	2,855	5,288	3,483	6,465	3,902	7,023	3,725	7,768	3,962
65—69 “.....	4,249	3,348	6,057	4,412	8,007	5,119	8,545	5,304	8,945	5,243
70—74 “.....	4,867	4,073	6,495	4,981	8,748	6,439	10,582	7,058	10,571	7,203
75—79 “.....	4,368	4,029	6,421	5,461	8,254	6,904	10,970	8,290	11,528	8,872
80—84 “.....	3,206	3,215	5,020	4,906	6,232	6,130	8,635	7,871	9,926	8,917
85 years or over.....	2,555	2,998	3,846	4,540	5,336	6,319	7,337	8,782	8,856	10,591
Totals, All Ages.....	56,529	47,988	63,852	50,787	71,564	51,259	82,709	58,276	87,208	61,731
PERCENTAGES										
Under 1 year.....	20.6	18.1	13.8	12.7	11.7	11.6	9.0	9.4	6.5	6.9
1—4 years.....	5.0	5.3	2.9	3.1	2.0	2.1	1.4	1.4	1.1	1.3
5—9 “.....	2.2	2.0	1.4	1.3	1.0	0.9	0.8	0.7	0.9	0.7
10—14 “.....	1.5	1.7	1.2	1.1	0.6	0.5	0.6	0.5	0.6	0.5
15—19 “.....	2.3	2.4	1.8	1.6	1.0	0.8	1.0	0.6	1.2	0.7
20—24 “.....	2.7	3.0	2.1	2.0	1.4	1.0	1.2	0.6	1.4	0.6
25—29 “.....	2.5	2.9	2.1	2.3	1.4	1.2	1.1	0.7	1.1	0.6
30—34 “.....	2.3	3.0	1.9	2.3	1.5	1.4	1.3	1.0	1.2	0.9
35—39 “.....	2.7	3.3	2.3	2.4	1.8	1.9	1.7	1.5	1.7	1.4
40—44 “.....	3.3	3.1	2.7	2.9	2.5	2.3	2.3	1.9	2.5	2.1
45—49 “.....	4.1	3.6	3.8	3.6	3.4	3.0	3.6	2.8	3.4	2.9
50—54 “.....	5.0	4.2	5.3	4.4	4.9	3.8	5.1	3.8	5.5	4.1
55—59 “.....	5.4	4.7	6.9	5.6	6.6	5.2	6.6	4.7	7.0	4.9
60—64 “.....	6.3	5.9	8.3	6.9	9.0	7.2	8.5	6.4	8.9	6.4
65—69 “.....	7.5	7.0	9.5	8.7	11.2	9.4	10.3	9.1	10.3	8.5
70—74 “.....	8.6	8.5	10.2	9.8	12.2	11.9	12.8	12.1	12.1	11.7
75—79 “.....	7.7	8.4	10.1	10.7	11.5	12.7	13.3	14.2	13.2	14.4
80—84 “.....	5.7	6.7	7.9	9.7	8.7	11.3	10.4	13.5	11.4	14.4
85 years or over.....	4.5	6.2	6.0	8.9	7.5	11.6	8.9	15.1	10.2	17.2
Totals, All Ages.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Excludes the Yukon and Northwest Territories.

16.—Distribution of Deaths by Age and Sex, 1931, 1941, 1951, 1961 and 1965—concluded

Age Group	1931 ¹		1941 ¹		1951		1961		1965	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
RATES PER 1,000 POPULATION										
Under 1 year.....	94.4	74.4	67.0	51.9	42.7	34.0	30.5	23.7	26.2	20.8
1—4 years.....	6.8	6.1	4.7	4.0	2.1	1.8	1.3	1.0	1.1	0.9
5—9 “.....	2.2	1.7	1.7	1.3	1.0	0.7	0.6	0.4	0.7	0.4
10—14 “.....	1.5	1.5	1.4	1.0	0.8	0.5	0.6	0.3	0.5	0.3
15—19 “.....	2.5	2.2	2.0	1.5	1.4	0.9	1.2	0.5	1.2	0.5
20—24 “.....	3.2	3.2	2.6	2.0	1.9	1.0	1.7	0.6	1.7	0.6
25—29 “.....	3.4	3.8	2.7	2.5	1.8	1.1	1.5	0.7	1.6	0.7
30—34 “.....	3.5	4.2	2.8	2.8	2.1	1.5	1.6	0.9	1.7	0.9
35—39 “.....	4.2	4.8	3.8	3.4	2.5	2.0	2.3	1.4	2.2	1.3
40—44 “.....	5.4	5.0	5.0	4.5	3.9	3.0	3.4	2.0	3.5	2.0
45—49 “.....	7.2	6.6	7.3	6.0	6.4	4.5	5.8	3.2	5.6	3.3
50—54 “.....	10.7	9.0	10.6	8.1	10.4	6.5	9.6	5.3	9.8	5.2
55—59 “.....	15.4	13.4	16.0	12.3	16.2	10.2	15.2	8.0	15.1	7.6
60—64 “.....	22.9	20.7	24.2	18.5	24.5	16.1	24.0	12.8	24.3	12.4
65—69 “.....	35.2	30.3	37.3	30.4	35.1	24.9	35.7	21.4	35.8	19.8
70—74 “.....	55.0	49.1	58.5	47.0	54.5	41.6	54.0	34.2	54.9	33.4
75—79 “.....	87.4	82.9	95.7	79.7	87.6	73.3	81.8	59.2	82.0	54.7
80—84 “.....	134.1	127.1	147.6	131.2	135.5	120.7	125.1	101.2	123.8	96.7
85 years or over.....	228.1	212.6	241.9	229.3	235.1	212.0	208.9	192.2	211.4	195.4
Totals, All Ages.....	10.5	9.6	10.8	9.1	10.1	7.8	9.0	6.5	8.8	6.4
Average age at death yrs.	43.1	44.8	51.5	53.4	56.3	58.7	59.7	63.1	61.7	65.4
Median age at death ² “	50.8	52.1	61.2	63.6	65.5	68.8	67.9	72.2	68.5	73.4

¹ Excludes the Yukon and Northwest Territories.

² The age above and below which half of the total

number of annual deaths occurred.

Table 17 indicates the variations from province to province in average and median ages at death; these, in turn, are dependent in large measure on the age distribution of the population as well as on varying mortality rates at each age. For example, in Newfoundland a high mortality rate among infants and young children reduces the average and median age for that province, but the reverse is the case in British Columbia and several other provinces with older populations.

17.—Average and Median Ages at Death, by Sex and Province, 1965

Province or Territory	Average Age at Death		Median Age at Death ¹	
	Males	Females	Males	Females
	yrs.	yrs.	yrs.	yrs.
Newfoundland.....	55.9	56.4	65.5	70.1
Prince Edward Island.....	63.4	68.8	71.2	76.8
Nova Scotia.....	62.9	66.9	69.8	74.8
New Brunswick.....	61.4	65.8	69.7	74.7
Quebec.....	57.9	62.2	65.1	70.4
Ontario.....	63.0	67.7	68.7	74.5
Manitoba.....	64.3	66.1	71.5	74.3
Saskatchewan.....	64.5	65.6	72.5	74.6
Alberta.....	61.4	62.5	69.2	72.2
British Columbia.....	65.2	68.2	72.1	75.8
Yukon Territory.....	46.9	34.8	...	...
Northwest Territories.....	30.1	27.1	...	...
Canada.....	61.7	65.4	68.5	73.4

¹ The age above and below which half of the total number of annual deaths occurred.

Deaths in Urban Centres.—Table 2, pp. 252-254, shows the numbers of deaths in urban centres of 20,000 population or over in 1965 and the average numbers for the period 1956-60; death rates for urban centres cannot be computed for these years since their populations are not known for intercensal periods.

Causes of Death.—Table 18 summarizes the most recent figures for deaths and death rates in Canada grouped according to the International Abbreviated List of 50 Causes. Over 80 p.c. of the deaths are caused by diseases of the heart and arteries, cancer, accidents, diseases of early infancy, the respiratory diseases, and nephritis. Because of the rise in the average age at death during the past thirty years, the proportion of deaths from causes that affect older people has increased. Cancer and diseases of the cardiovascular-renal systems now account for a larger proportion of all deaths. By the same token, deaths from causes that affect mainly children and young adults have declined.

18.—Deaths and Rates per 100,000 Population, according to the International Abbreviated List of 50 Causes, 1964 and 1965

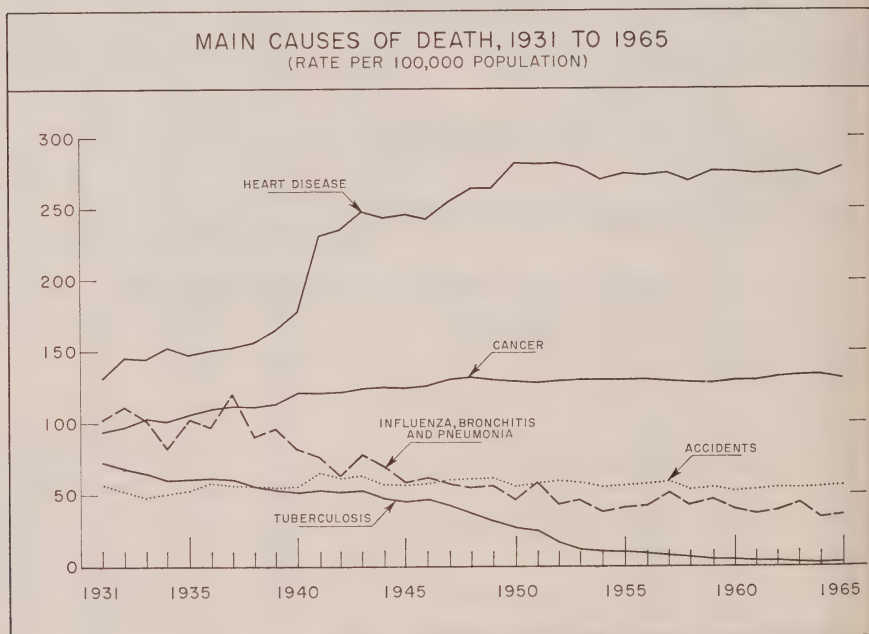
International List No.		Cause of Death	Numbers of Deaths		Rates per 100,000 Population	
Abbreviated List	Detailed List		1964	1965	1964	1965
B 1	001-008	Tuberculosis of respiratory system.....	598	629	3.1	3.2
B 2	010-019	Tuberculosis, other forms.....	72	68	0.4	0.3
B 3	020-029	Syphilis and its sequelae.....	91	105	0.5	0.5
B 4	040	Typhoid fever.....	2	—	—	—
B 5	043	Cholera.....	—	—	—	—
B 6	045-048	Dysentery, all forms.....	15	3	0.1	—
B 7	050, 051	Scarlet fever and streptococcal sore throat.....	9	10	—	0.1
B 8	055	Diphtheria.....	5	6	—	—
B 9	056	Whooping cough.....	26	9	0.1	—
B10	057	Meningococcal infections.....	38	38	0.2	0.2
B11	058	Plague.....	—	—	—	—
B12	080	Acute poliomyelitis.....	5	1	—	—
B13	084	Smallpox.....	—	—	—	—
B14	085	Measles.....	58	71	0.3	0.4
B16	100-108	Typhus and other rickettsial diseases.....	1	—	—	—
	110-117	Malaria.....	1	—	—	—
	030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138	All other diseases classified as infective and parasitic.....	325	370	1.7	1.9
B18	140-205	Cancer (all malignant neoplasms).....	25,637	26,050	133.3	133.1
	(201)	Cancer.....	24,177	24,579	125.7	125.6
	(204)	Hodgkin's disease.....	276	297	1.4	1.5
B19	210-239	Leukæmia and aleukæmia.....	1,184	1,174	6.2	6.0
B20	260	Benign and unspecified neoplasms.....	321	294	1.7	1.5
B21	290-293	Diabetes mellitus.....	2,488	2,496	12.9	12.8
B22	330-334	Anæmias.....	316	356	1.6	1.8
B23	340	Vascular lesions affecting central nervous system.....	15,030	15,669	78.1	80.1
B24	400-402	Non-meningococcal meningitis.....	179	178	0.9	0.9
B25	410-416	Rheumatic fever.....	42	45	0.2	0.2
B26	420-422	Chronic rheumatic heart disease.....	1,323	1,351	6.9	6.9
B27	430-434	Arteriosclerotic and degenerative heart disease.....	46,378	48,383	241.1	247.2
B28	440-443	Other diseases of heart.....	2,219	2,175	11.5	11.1
B29	444-447	Hypertension with heart disease.....	2,656	2,504	13.8	12.8
B30	480-483	Hypertension without mention of heart.....	806	776	4.2	4.0
B31	480-483	Influenza.....	300	439	1.6	2.2
B32	490-493	Pneumonia.....	4,962	5,123	25.8	26.2
B33	500-502	Bronchitis.....	1,017	1,186	5.3	6.1
B34	540, 541	Ulcer of stomach and duodenum.....	992	946	5.2	4.8
B35	550-553	Appendicitis.....	162	128	0.8	0.7
B36	560, 561, 570	Intestinal obstruction and hernia.....	917	945	4.8	4.8
B37	581	Gastritis, duodenitis, enteritis and colitis except diarrhoea of the newborn.....	750	712	3.9	3.6
B38	590-594	Cirrhosis of liver.....	1,228	1,248	6.4	6.4
B39	610	Nephritis and nephrosis.....	1,279	1,139	6.6	5.8
B40	640-652, 660, 670-689	Hyperplasia of prostate.....	447	437	4.6 ¹	4.4 ¹
B41	750-759	Complications of pregnancy, childbirth and the puerperium.....	137	135	30.2 ²	32.3 ²
		Congenital malformations.....	2,589	2,388	13.5	12.2

¹ Per 100,000 males.

² Per 100,000 live births.

18.—Deaths and Rates per 100,000 Population, according to the International Abbreviated List of 50 Causes, 1964 and 1965—concluded

International List No.		Cause of Death	Numbers of Deaths		Rates per 100,000 Population	
Abbreviated List	Detailed List		1964	1965	1964	1965
B42	760-762	Birth injuries, postnatal asphyxia and atelectasis.....	2,426	2,079	12.6	10.6
B43	763-768	Infections of the newborn.....	405	350	2.1	1.8
B44	769-776	Other diseases peculiar to early infancy and immaturity (unqualified).....	3,708	3,252	19.3	16.6
B45	780-795	Senility without mention of psychosis, ill-defined and unknown causes.....	1,101	987	5.7	5.0
B46	Residual	All other diseases.....	12,393	12,901	64.4	65.9
BE47	E810-E835	Motor vehicle accidents.....	4,862	5,049	25.3	25.8
BE48	E800-E802	All other accidents.....	5,702	5,629	29.6	30.3
BE49	E840-E862	Suicide.....	1,586	1,715	8.2	8.8
BE49	E863, E870-E879					
BE50	E864, E865					
BE50	E880-E999	Homicide and operations of war.....	246	264	1.3	1.3
Totals, All Causes.....			145,850	148,939	758.3	761.0



Accidents have displaced infectious diseases in recent years as one of the major killers. Table 19 shows clearly that accidents are, by far, the leading cause of death among males from age one to 44 and one of the five major causes above that age. Although less predominant among females, accidents are also one of the leading causes of female death beyond the first year of life.

19.—Leading Causes of Death, by Sex at Various Age Groups, 1965
(Rates per 100,000 population)

Cause	Males		Cause	Females		Cause	Total	
	No.	Rate		No.	Rate		No.	Rate
UNDER 1 YEAR ¹								
Immaturity.....	1,053	490	Congenital malformations.....	873	429	Immaturity.....	1,827	436
Congenital malformations.....	948	441	Immaturity.....	774	380	Congenital malformations.....	1,821	435
Influenza, bronchitis, pneumonia.....	686	319	Influenza, bronchitis, pneumonia.....	521	256	Influenza, bronchitis, pneumonia.....	1,207	288
Postnatal asphyxia and atelectasis.....	660	307	Postnatal asphyxia and atelectasis.....	423	208	Postnatal asphyxia and atelectasis.....	1,083	259
Injury at birth.....	593	276	Injury at birth.....	403	198	Injury at birth.....	996	238
1-4 YEARS								
Accidents.....	425	45	Accidents.....	275	31	Accidents.....	700	38
Influenza, bronchitis, pneumonia.....	133	14	Influenza, bronchitis, pneumonia.....	112	12	Influenza, bronchitis, pneumonia.....	245	13
Cancer.....	101	11	Congenital malformations.....	99	11	Cancer.....	192	10
Congenital malformations.....	89	9	Cancer.....	91	10	Congenital malformations.....	188	10
Gastritis, duodenitis, enteritis, colitis.....	29	3	Gastritis, duodenitis, enteritis, colitis.....	24	3	Gastritis, duodenitis, enteritis, colitis.....	53	3
5-19 YEARS								
Accidents.....	1,401	48	Accidents.....	537	18	Accidents.....	2,028	34
Cancer.....	253	8	Cancer.....	167	6	Cancer.....	2,420	37
Congenital malformations.....	87	3	Congenital malformations.....	67	2	Congenital malformations.....	154	3
Suicide.....	63	2	Influenza, bronchitis, pneumonia.....	57	2	Influenza, bronchitis, pneumonia.....	116	2
Influenza, bronchitis, pneumonia.....	59	2	Cardiovascular diseases.....	35	1	Cardiovascular diseases.....	85	1
20-44 YEARS								
Accidents.....	2,850	90	Cancer.....	1,058	34	Accidents.....	3,448	55
Cardiovascular diseases.....	1,526	48	Accidents.....	598	19	Cardiovascular diseases.....	2,101	33
Cancer.....	790	25	Cardiovascular diseases.....	575	18	Cancer.....	1,848	29
Suicide.....	528	17	Suicide.....	192	6	Suicide.....	720	11
Cirrhosis of liver.....	122	4	Maternal causes.....	118	4	Cirrhosis of liver.....	198	3

¹Per 100,000 live births.

19.—Leading Causes of Death, by Sex at Various Age Groups, 1965—concluded

Cause	Males		Cause	Females		Cause	Total	
	No.	Rate		No.	Rate		No.	Rate
45-64 YEARS								
Cardiovascular diseases.....	11,542	660	Cardiovascular diseases.....	4,174	241	Cardiovascular diseases.....	15,716	452
Cancer.....	4,524	259	Cancer.....	4,151	240	Cancer.....	8,675	249
Accidents.....	1,514	87	Accidents.....	547	32	Accidents.....	2,061	59
Influenza, bronchitis, pneumonia.....	589	34	Diabetes mellitus.....	294	17	Influenza, bronchitis, pneumonia.....	886	24
Suicide.....	496	28	Influenza, bronchitis, pneumonia.....	247	14	Suicide.....	672	19
65 YEARS OR OVER								
Cardiovascular diseases.....	30,731	4,358	Cardiovascular diseases.....	25,865	3,403	Cardiovascular diseases.....	57,596	3,854
Cancer.....	8,582	1,217	Cancer.....	6,309	799	Cancer.....	14,891	996
Influenza, bronchitis, pneumonia.....	2,732	386	Influenza, bronchitis, pneumonia.....	1,713	217	Influenza, bronchitis, pneumonia.....	4,435	297
Accidents.....	1,227	174	Diabetes mellitus.....	1,054	134	Accidents.....	2,260	151
Diabetes mellitus.....	749	106	Accidents.....	1,033	131	Diabetes mellitus.....	1,803	121
ALL AGES								
Cardiovascular diseases.....	43,870	445	Cardiovascular diseases.....	31,672	326	Cardiovascular diseases.....	75,542	386
Cancer.....	14,263	145	Cancer.....	11,787	121	Cancer.....	26,050	133
Accidents.....	7,791	79	Accidents.....	3,187	33	Accidents.....	10,978	56
Influenza, bronchitis, pneumonia.....	4,133	42	Influenza, bronchitis, pneumonia.....	2,615	27	Influenza, bronchitis, pneumonia.....	6,748	34
Diseases of early infancy.....	3,334	34	Diseases of early infancy.....	2,347	24	Diseases of early infancy.....	5,681	29

Subsection 2.—Infant Mortality

Table 1, pp. 250-251, and Table 20 show the striking improvement that has taken place in the rate of infant mortality during the past twenty years. Although 68,142 of the 2,670,380 children born in the six years 1961-66 died before reaching their first birthday, 182,607 others lived who *would have died* at the infant mortality rate prevailing in the period 1926-30. This improvement is attributable to many factors—the higher proportion of births taking place in hospital or under proper prenatal and postnatal care, better supervision of water supplies, improved sanitation, pasteurization of milk, the use of antibiotics, improved home environment as a result of higher living standards and, in recent years, the generally lower age of mothers.

The variations that exist in infant mortality rates from province to province and from one locality to another may be explained by differences in the extent to which these factors apply provincially or locally. Among the provinces, the 1966 male infant mortality rates ranged from a low of 22.8 to a high of 32.8, compared with the national average of 25.8—the latter including the very high rate among the Northwest Territories aboriginal population. Female rates ranged from 17.3 to 23.2, compared with the national rate of 20.2. Although the national and provincial rates for both sexes have been declining steadily for some years, for some unknown reason there were recently a number of reversals in provincial rates.

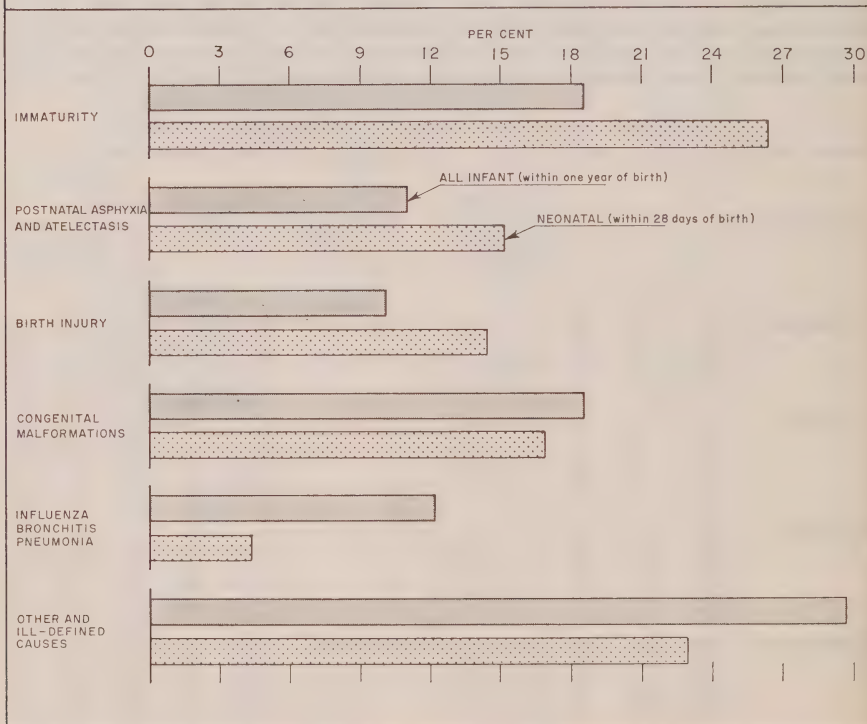
Table 20 shows that mortality among male infants is 25 p.c. to 30 p.c. higher than that among female infants for Canada, with wider variations for the individual provinces. For the country as a whole, out of every 1,000 infant boys born alive in 1966, 26 died before reaching their first birthday, whereas out of every 1,000 infant girls born alive, 20 died within one year. As already pointed out, there are on the average 1,056 males born to every 1,000 females but, because male infant mortality is higher, the excess of males is reduced greatly by the end of the first year. For example, in 1961-66 there were 1,370,835 male children born compared with 1,299,545 female children, an excess of 71,290 or 5.5 p.c.; in the same period, 39,135 male children died during their first year compared with 29,007 female children so that the excess of males at one year of age was reduced to 61,162 or 4.8 p.c.

20.—Distribution of Infant Deaths by Province and Sex, 1941-66

Province and Year	Males	Fe- males	Rate per 1,000 Male Live Births	Rate per 1,000 Female Live Births	Province and Year	Males	Fe- males	Rate per 1,000 Male Live Births	Rate per 1,000 Female Live Births
	No.	No.				No.	No.		
Newfoundland.....1951	361	276	60.3	48.0	Quebec.....1941	3,916	2,854	85.3	65.9
1961	335	253	41.7	33.5	1951	3,335	2,486	53.7	42.3
1964	259	197	35.1	27.0	1961	2,464	1,855	34.7	28.0
1965	236	223	31.2	31.1	1964	2,060	1,527	30.6	24.1
1966	237	158	32.8	23.0	1965	1,820	1,340	29.3	22.9
					1966	1,565	1,211	27.7	22.7
P. E. Island.....1941	102	61	94.6	62.8	Ontario	1,910	1,384	51.3	39.5
1951	60	30	43.7	23.5	1951	2,010	1,535	33.9	27.6
1961	55	38	37.4	27.8	1961	2,090	1,536	25.9	20.0
1964	50	22	35.2	16.8	1964	1,898	1,357	24.1	18.3
1965	43	31	33.2	25.4	1965	1,680	1,227	23.1	17.8
1966	34	23	29.9	21.7	1966	1,540	1,129	22.8	17.5
Nova Scotia.....1941	545	363	77.0	53.2	Manitoba.....1941	447	341	58.7	47.4
1951	344	250	38.9	30.2	1951	369	289	35.6	30.2
1961	309	229	31.0	24.3	1961	341	247	28.6	21.7
1964	263	201	28.1	22.4	1964	304	251	27.2	23.8
1965	210	184	25.0	22.7	1965	256	204	24.9	21.0
1966	221	163	28.1	22.1	1966	231	152	25.1	17.3
New Brunswick...1941	515	421	83.1	69.3	Saskatchewan....1941	531	415	56.1	46.2
1951	472	363	57.6	46.0	1951	353	323	31.8	30.4
1961	248	186	29.1	23.0	1961	373	245	30.3	21.0
1964	223	177	28.4	23.7	1964	332	257	28.6	23.2
1965	177	149	24.4	21.6	1965	298	205	28.4	20.5
1966	163	143	24.9	23.2	1966	278	183	28.3	19.9

20.—Distribution of Infant Deaths by Province and Sex, 1941-66—concluded

Province or Territory and Year	Males	Females	Rate per 1,000 Male Live Births	Rate per 1,000 Female Live Births	Territory and Year	Males	Females	Rate per 1,000 Male Live Births	Rate per 1,000 Female Live Births
	No.	No.				No.	No.		
Alberta.....1941	506	373	57.0	44.3	Northwest Territories.....1951	43	27	135.6	81.3
1951	531	358	38.6	27.0	1961	73	51	128.1	93.2
1961	612	432	30.8	22.7	1964	52	36	79.3	59.0
1964	518	347	28.0	19.7	1965	38	38	60.1	68.0
1965	455	330	26.9	21.0	1966	44	46	73.8	81.9
1966	376	264	24.2	17.6					
British Columbia..1941	316	236	41.1	32.1					
1951	487	352	33.8	25.8					
1961	534	411	27.1	21.8					
1964	497	321	27.0	18.3	Canada.....1941 ¹	8,788	6,448	67.0	51.9
1965	403	294	23.6	17.8	1951	8,375	6,298	42.7	34.0
1966	440	339	26.5	21.4	1961	7,447	5,493	30.5	23.7
Yukon Territory...1951	10	9	57.8	53.3	1964	6,466	4,703	27.8	21.4
1961	13	10	45.8	36.5	1965	5,626	4,236	26.2	20.8
1964	10	10	37.2	40.8	1966	5,138	3,822	25.8	20.2
1965	10	11	44.2	54.5					
1966	9	11	48.6	59.8					

¹ Excludes Newfoundland and the Yukon and Northwest Territories.CAUSES OF INFANT AND NEONATAL DEATHS, 1965
(PERCENTAGES OF TOTAL INFANT AND TOTAL NEONATAL DEATHS)

Infant Mortality in Urban Centres.—Because of the relatively small numbers of infant deaths in individual cities and towns, the rates for these centres usually vary widely from year to year. As is evident from Table 2, pp. 252-254, many cities and towns have maintained consistently low rates as compared with the national rate or the rate for the province in which they are situated.

Causes of Infant Deaths.—In 1965 almost 70 p.c. of the infant deaths were caused by immaturity, congenital malformations, pneumonia, postnatal asphyxia and atelectasis, and injury at birth. Immaturity was the underlying cause of 1,827 and was an added complication in 2,441 others. Congenital malformations accounted for 1,821 fatalities, pneumonia for 1,117, postnatal asphyxia for 1,083 and injury at birth for 996. Rates for all of these causes remained constant or decreased in 1965.

21.—Infant Mortality and Rates per 100,000 Live Births, by Cause, 1963-65

Inter- national List No.	Cause of Death	Numbers of Deaths			Rates per 100,000 Live Births		
		1963	1964	1965	1963	1964	1965
001-019	Tuberculosis.....	5	3	4	1	1	1
020-029	Syphilis.....	3	—	1	1	—	—
045-048	Dysentery.....	1	1	—	—	—	—
050	Scarlet fever.....	—	—	—	—	—	—
056	Whooping cough.....	24	15	5	5	3	1
057	Meningococcal infections.....	16	18	18	4	4	4
085	Measles.....	24	23	27	5	5	6
140-239	Neoplasms.....	48	45	31	10	10	7
273	Diseases of thymus gland.....	5	12	11	1	3	3
325	Mental deficiency.....	67	58	48	14	13	11
340	Meningitis (non-meningococcal).....	77	86	73	17	19	17
391, 392	Otitis media.....	49	63	40	11	14	10
470-475	Acute upper respiratory infections.....	46	30	36	10	7	9
480-483	Influenza.....	100	37	35	21	8	8
490-493	Pneumonia (4 weeks and over).....	1,146	948	831	246	209	199
500-502	Bronchitis.....	45	72	55	10	16	13
543	Gastritis and duodenitis.....	3	2	1	—	—	—
560-570	Hernia and intestinal obstruction.....	108	96	104	23	21	25
571	Gastro-enteritis and colitis.....	372	208	172	80	46	41
572	Chronic enteritis, and ulcerative colitis.....	2	3	2	—	1	—
750-759	Congenital malformations.....	2,068	1,969	1,821	444	435	435
760, 761	Injury at birth.....	1,232	1,170	996	265	258	238
762	Postnatal asphyxia and atelectasis.....	1,368	1,256	1,083	294	277	259
763	Pneumonia of newborn (under 4 weeks).....	360	307	286	77	68	68
764	Diarrhoea of newborn (under 4 weeks).....	67	57	30	14	13	7
765-768	Other infections of newborn.....	50	41	34	11	9	8
769	Antenatal toxæmia.....	87	91	56	19	20	13
770	Erythroblastosis.....	289	251	218	62	55	52
771	Hæmorrhagic disease of newborn.....	83	93	73	18	21	17
772	Nutritional maladjustment.....	35	36	29	8	8	7
773	Ill-defined diseases peculiar to early infancy.....	1,118	1,077	1,049	240	238	251
774-776	Immaturity.....	2,348	2,159	1,827	504	477	436
795	Ill-defined and unknown causes.....	51	27	10	11	6	2
E810-E825	Motor vehicle accidents.....	19	32	15	4	7	4
E900-E904	Accidental falls.....	13	9	10	3	2	2
E916	Accidents caused by fire.....	22	18	23	5	4	5
E921, E922	Inhalation and ingestion of food or other object.....	290	276	259	62	61	62
E924, E925	Accidental mechanical suffocation.....	162	158	141	35	35	34
	Other accidental and violent deaths.....	50	43	44	11	9	11
	Other specified causes.....	417	379	364	90	84	87
Totals, All Causes.....		12,270	11,169	9,862	2,634	2,466	2,356

Age at Death.—Of the 9,862 infants who died within a year of their birth, 6,835, or almost 70 p.c., were less than one month old—4,029 during the first day of life, 2,116 from the second to the seventh day, and 690 during the three following weeks.

22.—Infant Deaths, by Age, 1965

Time of Death	Number	Per-centage	Cumulative		Time of Death	Number	Per-centage	Cumulative	
			Number	Per-centage				Number	Per-centage
1st day.....	4,029	40.9	4,029	40.9	1st month.....	6,835	69.3	6,835	69.3
2nd ".....	796	8.1	4,825	48.9	2nd ".....	695	7.0	7,530	76.4
3rd ".....	600	6.1	5,425	55.0	3rd ".....	570	5.8	8,100	82.1
4th ".....	302	3.1	5,727	58.1	4th ".....	480	4.9	8,580	87.0
5th ".....	175	1.8	5,902	59.8	5th ".....	339	3.4	8,919	90.4
6th ".....	139	1.4	6,041	61.3	6th ".....	234	2.4	9,153	92.8
7th ".....	104	1.1	6,145	62.3	7th ".....	185	1.9	9,338	94.7
1st week.....	6,145	62.3	6,145	62.3	8th ".....	142	1.4	9,480	96.1
2nd ".....	313	3.2	6,458	65.5	9th ".....	121	1.2	9,601	97.4
3rd ".....	196	2.0	6,654	67.5	10th ".....	99	1.0	9,700	98.4
4th ".....	181	1.8	6,835	69.3	11th ".....	73	0.7	9,773	99.1
					12th ".....	89	0.9	9,862	100.0

Neonatal Mortality.—Deaths occurring within the first four weeks of birth are conventionally referred to as 'neonatal' deaths. Table 22 shows that about 70 p.c. of all infant deaths occur in this hazardous neonatal period and, as would be expected, are caused mainly by conditions associated with pregnancy or delivery. Table 23 gives numbers and rates of neonatal deaths for 1941-66 and the chart on p. 274 compares the major causes of such deaths with all infant deaths from the same causes.

23.—Neonatal Mortality,¹ by Province, 1941-66

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
NUMBERS													
Av. 1941-45....	344	58	418	453	3,329	2,061	425	469	463	400	..	..	8,076
" 1946-50....	346	52	403	527	3,395	2,511	442	505	553	533	..	..	9,052
" 1951-55....	294	45	342	391	3,241	2,476	395	426	552	535	8	30	8,736
" 1956-60....	324	54	334	322	3,137	2,652	402	414	622	648	8	54	8,970
" 1961-65....	299	48	318	261	2,679	2,494	356	389	632	559	10	39	8,085
1964.....	278	43	305	270	2,558	2,402	367	402	616	550	9	31	7,831
1965.....	253	49	262	209	2,221	2,142	303	335	557	462	11	31	6,835
1966.....	252	42	256	191	2,013	1,956	249	309	435	506	9	35	6,253
RATES PER 1,000 LIVE BIRTHS													
Av. 1941-45....	37.0	26.5	27.6	34.7	34.0	26.5	26.8	25.4	24.6	22.6	..	..	29.2
" 1946-50....	28.0	18.2	22.4	31.2	29.4	23.9	22.9	23.1	22.8	20.6	..	..	25.5
" 1951-55....	22.4	16.5	18.7	23.7	25.2	19.2	18.5	18.1	17.8	17.1	19.9	45.0	21.0
" 1956-60....	21.7	20.1	17.5	19.4	22.4	17.4	18.0	17.2	16.8	16.6	15.5	57.1	19.1
" 1961-65....	19.8	17.2	17.2	16.7	20.4	16.3	16.1	17.1	17.1	15.2	20.4	33.4	17.7
1964.....	18.9	15.8	16.7	17.6	19.5	15.7	16.9	17.7	17.0	15.3	17.5	24.5	17.3
1965.....	17.2	19.5	15.9	14.7	18.4	15.1	15.2	16.3	17.1	13.7	25.7	26.0	16.3
1966.....	17.9	19.1	16.8	15.0	18.3	14.8	13.8	16.2	14.2	15.6	24.4	30.2	16.1

¹ Prior to 1951, includes deaths under one calendar month of age; since 1951, includes deaths under 28 days.

Perinatal Mortality.—'Perinatal' mortality—the combined total of stillbirths and deaths of live-born infants occurring 'around' the natal period—is a relatively new vital statistics concept. Since such deaths frequently have the same underlying causes, associated with pregnancy or delivery, regardless of whether they occur before or after delivery, perinatal deaths are generally considered as including the combined total of stillbirths occurring after at least 28 weeks pregnancy and deaths of live-born infants who fail to survive the first week of life.

In 1965 there were 10,992 such 'deaths', of which 4,847 were stillborn and 6,145 live-born but failed to survive one week, with a national rate of 26.0 such deaths for every 1,000 total deliveries. This perinatal rate has declined slowly but steadily from 65.2 in 1921 to 26.0 in 1965.

Subsection 3.—Maternal Mortality

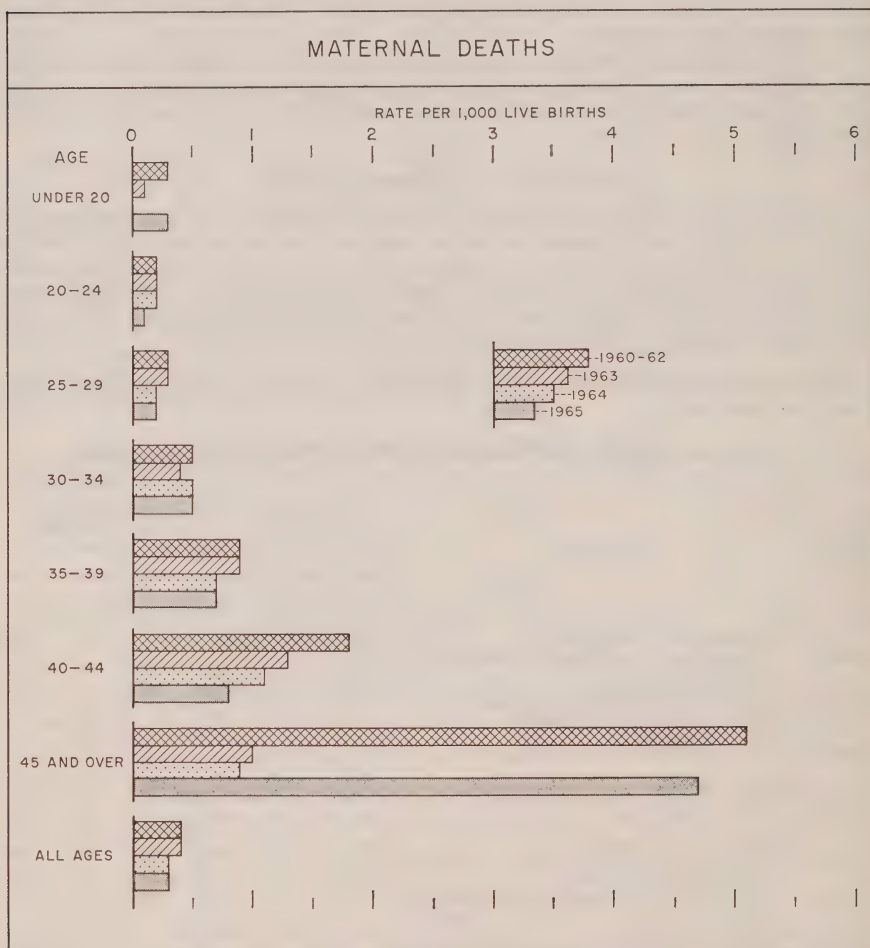
As indicated in Table 1, pp. 250-251, the number of mothers who die in pregnancy and childbirth has been greatly reduced during the past two decades, reaching an all-time low of 135 in 1965. Since 1951 the rate of maternal mortality per 10,000 births has been under 10 and since 1959 it has been under five. Despite this improvement, Canada's maternal death rate (3.2 in 1965) is higher than those for several other countries (see p. 290). Mortality among unmarried mothers is higher than among married mothers.

Causes of Maternal Deaths.—Table 24 shows the main causes of maternal deaths during the years 1963-65.

24.—Maternal Mortality and Rates per 100,000 Live Births, by Cause, 1963-65

Inter- national List No.	Cause of Death	Numbers of Deaths			Rates per 100,000 Live Births		
		1963	1964	1965	1963	1964	1965
	Complications of Pregnancy.....	43	35	42	9	8	10
640, 641	Infections of the genito-urinary tract during pregnancy.....	6	3	2	1	1	--
642	Toxæmias of pregnancy.....	21	17	21	5	4	5
643	Placenta prævia noted before delivery.....	—	—	1	—	—	--
644	Other hæmorrhage of pregnancy.....	—	—	2	—	—	--
645	Ectopic pregnancy.....	8	6	4	2	1	1
646-649	Other complications of pregnancy.....	8	9	12	2	2	3
	Abortion.....	27	22	14	6	5	3
650, 652	Abortion without mention of sepsis.....	6	10	4	1	2	1
651	Abortion with sepsis.....	21	12	10	5	3	2
	Complications of Delivery.....	67	48	43	14	11	10
670	Delivery complicated by placenta prævia or antepartum hæmorrhage.....	20	6	5	4	1	1
671	Delivery complicated by retained placenta.....	5	4	5	1	1	1
672	Delivery complicated by other postpartum hæmorrhage.....	6	15	11	1	3	3
673, 674	Delivery complicated by abnormality of bony pelvis or malposition of fœtus.....	8	5	4	2	1	1
675	Delivery complicated by prolonged labour of other origin.....	4	1	—	1	--	—
676, 677	Delivery with laceration or other trauma.....	10	11	13	2	2	3
678	Delivery with other complications of childbirth.....	14	6	5	3	1	1
	Complications of the Puerperium.....	28	32	36	6	7	9
680	Puerperal urinary infection without other sepsis.....	—	1	—	—	--	—
681	Sepsis of childbirth and the puerperium.....	4	5	7	1	1	2
682-684	Puerperal phlebitis, thrombosis, pyrexia, pulmonary embolism.....	9	13	17	2	3	4
685, 686	Puerperal eclampsia and toxæmia.....	5	1	5	1	--	1
687-689	Other.....	10	12	7	2	3	2
	Totals, All Puerperal Causes.....	165	137	135	35	30	32

Of the 135 maternal deaths in the latest year, 42 resulted from complications arising during pregnancy, about half of these from some type of toxæmia; 43 resulted from a complication of delivery, 36 from a post-delivery complication and 14 from abortive delivery.



Age at Death.—Table 25 shows the distribution of maternal deaths by age group; the average age at death is about four years higher than the average age of all mothers at the time of childbirth. Although death rates for all age groups of mothers have been declining, there have been rather significant changes in the rates. Formerly, the rate for mothers in the age group 30-34 was twice or three times as high as the rate for the 20-24 group, but recently mortality rates for the four age groups of mothers under 35 years of age have not been far apart, although after age 35 a sharp rise occurs.

25.—Maternal Mortality and Rates per 10,000 Live Births, by Age Group, 1963-65

(Exclusive of Newfoundland)

Age Group	Maternal Deaths						Rates per 10,000 Live Births		
	1963		1964		1965		1963	1964	1965
	No.	p.c.	No.	p.c.	No.	p.c.			
Under 20 years.....	5	3.2	2	1.5	12	9.2	1.2	0.5	2.9
20—24 “.....	23	14.6	21	16.0	14	10.8	1.6	1.5	1.1
25—29 “.....	33	20.9	21	16.0	23	17.7	2.7	1.8	2.1
30—34 “.....	34	21.5	39	29.8	35	26.9	4.0	4.8	4.9
35—39 “.....	42	26.6	30	22.9	30	23.1	8.8	6.6	7.3
40—44 “.....	20	12.7	17	13.0	11	8.5	13.4	11.4	8.2
45—49 “.....	—	—	1	0.8	5	3.8	—	9.3	47.8
50 years or over.....	1	0.6	—	—	—	—	—	—	—
Totals, All Ages.....	158	100.0	131	100.0	130	100.0	3.5	3.0	3.2
Average age at death..... yrs.	32.3		32.4		31.9		...	...	...
Median age at death ¹ “	32.6		32.8		32.3		...	...	...

¹ The age below and above which half of the maternal deaths occurred.

Section 4.—Natural Increase*

The excess of births over deaths, commonly referred to as natural increase, is a very important factor in the growth of a population. Although the collection of Canadian birth and death statistics began only in 1921, some idea of the rate of natural increase in the early Canadian population may be learned from the estimates shown at the beginning of Sections 2 and 3, which resulted in the following natural increase rates:—

Intercensal Period	Estimated Average Annual Natural Increase Rate (per 1,000 Population)	Intercensal Period	Estimated Average Annual Natural Increase Rate (per 1,000 Population)
1851-61.....	23	1891-1901.....	14
1861-71.....	19	1901-11.....	18
1871-81.....	18	1911-21.....	16
1881-91.....	16		

Because of the combination of high birth rates and declining death rates—despite the fact that death rates were still relatively high—the annual rate of natural increase during the late 1800s and early 1900s varied between 14 and 23; in other terms, the population increased at the rate of 1.5 p.c. to 2.5 p.c. each year by natural increase alone, regardless of any increase attributable to immigration. During the 1920s and early 1930s the birth rate declined more than the death rate and the natural increase rate dropped to a record low of 9.7 in 1937. But higher birth rates during and after World War II and a gradually declining death rate caused the natural increase rate to rise steadily from 10.9 in 1939 to a record 20.3 in 1954. Although after that year there has been a steady drop because of declining birth rates, the natural increase rate in 1966 was still high at 11.9.

Table 1, pp. 250-251, gives average rates of natural increase in the provinces for five-year periods 1941-65 and Table 26 gives the provincial figures for males and females separately for 1941, 1951, 1961 and 1964-66. High birth rates and declining death rates have given Newfoundland, Alberta and New Brunswick the highest rates of natural increase in Canada in recent years (excluding the Yukon and Northwest Territories).

* For international comparisons, see Section 7, pp. 289-290.

26.—Natural Increase and Rates per 1,000 Population, by Sex and Province, 1941, 1951, 1961 and 1964-66

Province or Territory and Year	Excess of Births Over Deaths	Rate per 1,000 Population	Males		Females	
			Number	Rate per 1,000 Males	Number	Rate per 1,000 Females
Newfoundland.....1951	8,734	24.2	4,369	23.6	4,365	24.8
1961	12,553	27.5	6,350	27.0	6,203	27.8
1964	11,617	23.7	5,577	22.1	6,040	25.3
1965	11,510	23.1	5,664	22.2	5,846	24.1
1966	11,012	22.3	5,406	21.4	5,606	23.2
Prince Edward Island.....1941	915	9.6	483	9.8	432	9.4
1951	1,747	17.9	872	17.4	875	18.2
1961	1,860	17.8	925	17.3	935	18.2
1964	1,746	16.3	832	15.2	914	17.5
1965	1,481	13.7	688	12.5	793	15.0
1966	1,151	10.6	538	9.8	613	11.4
Nova Scotia.....1941	6,989	12.1	3,335	11.3	3,654	13.0
1951	11,313	17.6	5,596	17.2	5,717	18.0
1961	13,247	18.0	6,435	17.2	6,812	18.8
1964	11,930	15.7	5,670	14.7	6,260	16.7
1965	10,190	13.4	4,825	12.5	5,365	14.3
1966	8,742	11.5	4,122	10.8	4,620	12.3
New Brunswick.....1941	7,088	15.5	3,396	14.5	3,692	16.5
1951	11,202	21.8	5,522	21.3	5,680	22.1
1961	11,895	19.8	5,844	19.3	6,051	20.5
1964	10,602	17.2	5,125	16.4	5,477	18.0
1965	9,465	15.2	4,491	14.3	4,974	16.1
1966	7,951	12.9	3,789	12.2	4,162	13.6
Quebec.....1941	54,871	16.5	27,561	16.5	27,310	16.5
1951	86,030	21.2	42,961	21.2	43,069	21.2
1961	100,130	19.1	49,741	18.9	50,389	19.2
1964	93,293	16.7	45,649	16.4	47,644	17.1
1965	82,073	14.5	40,065	14.2	42,008	14.9
1966	71,198	12.3	34,141	11.8	37,057	12.8
Ontario.....1941	33,036	8.7	15,705	8.2	17,331	9.3
1951	70,846	15.4	34,737	15.0	36,109	15.8
1961	106,666	17.1	51,538	16.4	55,128	17.8
1964	100,525	15.3	48,610	14.7	51,915	15.8
1965	87,264	12.9	41,438	12.3	45,826	13.7
1966	77,771	11.2	36,436	10.5	41,335	11.9
Manitoba.....1941	8,317	11.4	3,834	10.1	4,483	12.7
1951	13,207	17.0	6,388	16.2	6,819	17.9
1961	15,919	17.3	7,445	15.9	8,474	18.7
1964	14,033	14.6	6,601	13.6	7,432	15.7
1965	12,260	12.8	5,689	11.7	6,571	13.8
1966	10,069	10.5	4,462	9.2	5,607	11.7
Saskatchewan.....1941	12,006	13.4	5,651	11.8	6,355	15.2
1951	15,293	18.4	7,192	16.6	8,101	20.4
1961	16,887	18.2	7,766	16.2	9,121	20.5
1964	15,309	16.3	7,024	14.5	8,285	18.1
1965	13,077	13.7	5,829	11.9	7,248	15.7
1966	11,610	12.1	5,220	10.7	6,390	13.7
Alberta.....1941	10,923	13.7	5,016	11.8	5,907	16.0
1951	19,836	21.2	9,331	19.0	10,505	23.5
1961	30,051	22.5	14,194	20.6	15,857	24.7
1964	26,687	18.7	12,466	16.9	14,221	20.5
1965	23,130	15.9	10,946	14.7	12,184	17.3
1966	20,915	14.3	9,547	12.8	11,368	15.9
British Columbia.....1941	6,533	8.0	2,342	5.4	4,191	10.9
1951	16,439	14.1	7,107	11.9	9,332	16.4
1961	24,188	14.9	10,829	13.1	13,359	16.7
1964	19,846	11.5	8,585	9.8	11,261	13.1
1965	17,885	10.0	7,587	8.4	10,298	11.6
1966	16,212	8.6	6,751	7.1	9,461	10.2
Yukon Territory.....1951	257	28.6	115	20.9	142	39.4
1961	464	31.7	218	26.7	246	38.1
1964	427	26.7	210	23.9	217	30.1

26.—Natural Increase and Rates per 1,000 Population, by Sex and Province, 1941, 1951, 1961 and 1964-66—concluded

Territory and Year	Excess of Births Over Deaths	Rate per 1,000 Population	Males		Females	
			Number	Rate per 1,000 Males	Number	Rate per 1,000 Females
Yukon Territory—concluded.....1965	328	21.8	157	18.9	171	25.5
1966	287	20.0	135	17.3	152	23.1
Northwest Territories.....1951	365	22.8	164	18.2	201	28.7
1961	855	37.2	409	31.9	446	43.8
1964	1,050	42.0	529	38.6	521	46.1
1965	993	39.7	525	38.3	468	41.4
1966	929	32.3	468	30.1	461	35.0
Canada.....1941¹	140,678	12.2	67,323	11.4	73,355	13.1
1951	255,269	18.2	124,354	17.5	130,915	18.9
1961	334,715	18.4	161,694	17.5	173,021	19.2
1964	307,065	15.9	146,878	15.1	160,187	16.8
1965	269,656	13.8	127,904	13.0	141,752	14.6
1966	237,847	11.9	111,015	11.0	126,832	12.7

¹ Excludes Newfoundland and the Yukon and Northwest Territories.

The rates of natural increase are higher for females than for males in all provinces because of the higher death rates for males. In the western provinces particularly, the ratio of males to females in the total population is higher than in other parts of Canada and this in itself tends to lower the rate of natural increase. In Canada, a country with a fairly young population and where immigration has been on a large scale, an excess of males is to be expected but the higher rate of natural increase for females may gradually reduce this excess. The trend is toward an eventual excess of females in the total population—as there now is in most European countries—unless immigration again raises the male ratio or death rates among males are greatly reduced.

Natural Increase in Urban Centres.—The classification of births and deaths by place of residence makes it possible to compile the natural increase in the population of urban centres; the figures for centres of over 20,000 population are presented in Table 2, pp. 252-254.

Section 5.—Marriages and Divorces

Subsection 1.—Marriages*

In 1966 Canada's crude marriage rate was 7.8 per 1,000 population. Provincial rates in 1966 varied from 6.9 per 1,000 population for Prince Edward Island to 8.4 for New Brunswick.

Table 27 gives the number of marriages and the marriage rates for Canada and the provinces for 1941, 1951, 1961 and 1964-66, together with percentages of brides and bridegrooms according to place of birth. For the country as a whole, over 83 p.c. of the bridegrooms of 1966 were born in Canada and over 68 p.c. in the province in which they were married; 86 p.c. of the brides were born in Canada and 74 p.c. in the province in which they were married. During the postwar years until 1959 an increasing number of marriages were of persons born outside the country, because of the heavy immigration of young persons. However, since 1959 the proportion of foreign-born bridegrooms declined from 19.6 to 17.0 p.c. in 1966 and the proportion of foreign-born brides from 15.9 to 14.0 p.c. There are wide variations in the pattern of intermarriage of foreign-born and native-born persons as between provinces; in the older Atlantic Provinces and in Quebec there is a greater tendency than in the other provinces to marry native Canadians and in these areas both partners are often born in the same province.

* For international comparisons, see Section 7, pp. 289-290.

27.—Marriages and Rates per 1,000 Population, by Province, with Percentage Distribution of Bridegrooms and Brides by Nativity, 1941, 1951, 1961 and 1964-66

Province and Year	Total Marriages	Rate per 1,000 Popu- lation	Born in Province Where Married		Born in Other Provinces		Born Outside Canada		
			Grooms	Brides	Grooms	Brides	Grooms	Brides	
			No.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Newfoundland.....	1951	2,517	7.0	85.2	96.7	2.4	1.9	12.4	1.4
	1961	3,306	7.2	88.0	97.2	3.8	1.6	8.2	1.2
	1964	3,385	6.9	87.6	96.0	3.8	1.8	8.7	2.2
	1965	3,412	6.9	88.6	96.2	3.3	1.8	8.1	1.9
	1966	3,728	7.6	89.2	96.6	4.2	1.7	6.7	1.7
Prince Edward Island.....	1941	673	7.1	78.8	86.6	15.0	9.4	6.2	4.0
	1951	583	5.9	82.3	91.1	12.9	6.0	4.8	2.9
	1961	624	6.0	81.7	89.6	15.4	7.2	2.9	3.2
	1964	662	6.2	76.9	90.0	18.4	7.7	4.7	2.3
	1965	713	6.6	77.7	87.2	18.5	10.9	3.8	1.8
	1966	752	6.9	77.3	89.2	18.5	9.0	4.3	1.7
Nova Scotia.....	1941	6,596	11.4	73.2	83.8	16.8	9.5	10.0	6.7
	1951	5,094	7.9	78.2	86.7	15.9	9.0	6.0	4.3
	1961	5,292	7.2	75.2	87.8	18.8	8.8	6.0	3.4
	1964	5,339	7.0	76.2	88.0	17.9	9.0	6.0	3.0
	1965	5,549	7.3	78.2	88.1	16.7	8.2	5.2	3.8
	1966	5,833	7.7	76.8	86.8	17.3	9.5	5.8	3.7
New Brunswick.....	1941	4,941	10.8	78.5	84.4	13.3	9.7	8.2	5.9
	1951	4,386	8.5	80.0	86.9	10.1	6.7	9.8	6.4
	1961	4,504	7.5	75.4	86.3	14.9	7.9	9.7	5.8
	1964	4,611	7.5	74.1	85.4	15.0	8.4	10.9	6.3
	1965	4,766	7.7	76.2	85.2	14.5	8.8	9.3	5.9
	1966	5,165	8.4	76.2	85.8	14.6	8.8	9.2	5.4
Quebec.....	1941	32,782	9.8	86.1	89.3	6.7	5.9	7.2	4.8
	1951	35,704	8.8	86.7	89.5	6.1	5.5	7.2	5.0
	1961	35,943	6.8	83.6	87.4	5.7	4.8	10.7	7.8
	1964	39,400	7.1	84.4	87.6	5.6	4.9	10.0	7.5
	1965	40,893	7.2	84.2	87.5	5.7	4.9	10.1	7.6
	1966	44,411	7.7	83.9	87.2	5.7	5.0	10.4	7.8
Ontario.....	1941	43,270	11.4	89.2	89.0	4.2	4.5	6.7	6.5
	1951	45,198	9.8	65.9	72.4	14.6	12.2	19.5	15.4
	1961	44,434	7.1	61.5	67.2	12.9	11.0	25.6	21.8
	1964	48,501	7.4	61.6	66.7	13.8	11.9	24.6	21.4
	1965	51,274	7.6	61.6	66.1	14.2	12.2	24.2	21.6
	1966	54,571	7.8	61.0	65.9	14.2	12.0	24.8	22.0
Manitoba.....	1941	8,305	11.4	63.0	73.7	17.4	15.0	19.6	11.4
	1951	7,366	9.5	67.9	75.1	15.4	13.3	16.8	11.6
	1961	6,512	7.1	66.6	74.5	18.5	14.5	14.8	11.0
	1964	6,796	7.1	67.5	75.2	18.1	14.1	14.4	10.7
	1965	7,012	7.3	69.2	76.5	17.7	13.8	13.1	9.6
	1966	7,312	7.6	67.7	75.6	18.2	13.9	14.1	10.4
Saskatchewan.....	1941	7,036	7.9	64.7	79.1	16.1	10.0	19.1	10.9
	1951	6,805	8.2	78.3	86.4	10.7	6.4	11.1	7.2
	1961	6,149	6.6	79.3	85.8	11.9	8.7	8.8	5.5
	1964	6,382	6.8	78.8	85.1	13.5	9.4	7.8	5.5
	1965	6,806	7.2	78.9	85.0	13.5	9.5	7.6	5.5
	1966	6,987	7.3	77.7	85.3	14.6	9.2	7.7	5.6
Alberta.....	1941	8,470	10.6	50.0	63.4	23.9	19.9	26.2	16.8
	1951	9,305	9.9	56.0	67.4	25.7	19.6	18.3	13.0
	1961	10,474	7.9	54.4	62.3	25.8	21.8	19.8	15.9
	1964	10,634	7.4	56.2	62.9	26.2	22.9	17.6	14.2
	1965	11,209	7.7	57.0	63.3	25.8	22.2	17.2	14.4
	1966	11,879	8.1	56.4	64.1	26.2	22.0	17.3	14.0
British Columbia.....	1941	9,769	11.9	35.9	43.5	35.6	37.1	28.5	19.4
	1951	11,272	9.7	35.5	41.6	43.1	43.0	21.3	15.5
	1961	10,964	6.7	36.4	45.9	35.9	32.4	27.7	21.8
	1964	12,158	7.0	42.1	50.3	34.4	30.1	23.5	19.6
	1965	13,639	7.6	41.3	50.6	35.0	30.3	23.6	19.1
	1966	14,682	7.8	42.0	51.2	34.5	29.0	23.6	19.8

27.—Marriages and Rates per 1,000 Population, by Province, with Percentage Distribution of Bridegrooms and Brides by Nativity, 1941, 1951, 1961 and 1964-66—concluded

Territory and Year	Total Marriages	Rate per 1,000 Popu- lation	Born in Province Where Married		Born in Other Provinces		Born Outside Canada	
			Grooms	Brides	Grooms	Brides	Grooms	Brides
	No.		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Yukon Territory.....1961	128	8.8	12.5	24.2	63.3	52.3	24.2	23.4
.....1964	94	5.9	11.7	19.1	64.9	62.8	23.4	18.1
.....1965	108	7.2	12.0	24.1	61.1	56.5	26.9	19.4
.....1966	94	6.5	16.0	16.0	57.4	69.1	26.6	14.9
Northwest Territories.....1961	145	6.3	54.5	61.4	35.9	31.7	9.7	6.9
.....1964	173	6.9	56.1	67.1	37.0	30.1	6.9	2.9
.....1965	138	5.5	47.1	52.2	40.6	37.0	12.3	10.9
.....1966	182	6.3	51.1	62.6	39.0	29.7	9.9	7.7
Canada¹.....1941	121,842	10.6	76.8	81.5	11.4	10.1	11.7	8.4
.....1951	128,230	9.2	70.5	76.5	15.1	12.8	14.5	10.6
.....1961	128,475	7.0	67.9	74.2	14.3	11.7	17.9	14.1
.....1964	138,135	7.2	68.7	74.4	14.5	11.9	16.8	13.6
.....1965	145,519	7.4	68.7	74.1	14.7	12.1	16.6	13.8
.....1966	155,596	7.8	68.2	74.1	14.8	11.9	17.0	14.0

¹ Newfoundland included from 1951 and the Yukon and Northwest Territories from 1961.

Age and Marital Status of Brides and Bridegrooms.—Table 28 shows that 91.1 p.c. of the brides and 91.5 p.c. of the grooms in 1965 had never previously married, and that 4.6 p.c. of the brides and 4.1 p.c. of the bridegrooms had been widowed. The average age at marriage of bachelors was 25.3 years and that of spinsters 22.6 years. The average age of widowers and widows at time of remarriage was slightly more than double that of bachelors and spinsters.

28.—Brides and Bridegrooms, by Age and Marital Status, 1965

Age Group	BRIDES							
	Numbers				Percentages			
	Spinsters	Widows	Divorced	Total	Spinsters	Widows	Divorced	Total
12-14 years.....	76	—	—	76	0.1	—	—	0.1
15-19 ".....	44,754	16	37	44,807	33.7	0.2	0.6	30.8
20-24 ".....	66,578	173	784	67,535	50.2	2.6	12.7	46.4
25-29 ".....	13,248	332	1,412	14,992	10.0	4.9	22.9	10.3
30-34 ".....	3,808	405	1,262	5,475	2.9	6.0	20.4	3.8
35-39 ".....	1,803	560	945	3,308	1.4	8.3	15.3	2.3
40-44 ".....	1,036	788	727	2,551	0.8	11.7	11.8	1.8
45-49 ".....	567	834	510	1,911	0.4	12.4	8.3	1.3
50-54 ".....	359	956	297	1,612	0.3	14.2	4.8	1.1
55-59 ".....	183	901	136	1,220	0.1	13.4	2.2	0.8
60-64 ".....	112	714	50	876	0.1	10.6	0.8	0.6
65 years or over.....	93	1,042	19	1,154	0.1	15.5	0.3	0.8
Totals, Stated Ages..	132,617	6,721	6,179	145,517	100.0	100.0	100.0	100.0
Age not stated.....	2	—	—	2	...	...	...	...
Totals, All Ages.....	132,619	6,721	6,179	145,519	91.1	4.6	4.2	100.0
Average ages.....yrs.	22.6	50.6	35.1	24.5	...	...	...	...
Median ages ¹"	21.2	51.3	38.3	21.6	...	...	...	...

¹ The ages below and above which half of the marriages occurred.

28.—Brides and Bridegrooms, by Age and Marital Status, 1965—concluded

Age Group	BRIDEGROOMS							
	Numbers				Percentages			
	Bachelors	Widowers	Divorced	Total	Bachelors	Widowers	Divorced	Total
15—19 years.....	10,166	1	—	10,167	7.6	—	—	7.0
20—24 “.....	74,422	35	247	74,704	55.9	0.6	3.8	51.3
25—29 “.....	31,614	128	1,201	32,943	23.8	2.1	18.6	22.6
30—34 “.....	9,246	220	1,324	10,790	6.9	3.7	20.6	7.4
35—39 “.....	3,740	331	1,181	5,252	2.8	5.5	18.3	3.6
40—44 “.....	1,858	481	897	3,236	1.4	8.1	13.9	2.2
45—49 “.....	863	537	682	2,082	0.6	9.0	10.6	1.4
50—54 “.....	524	724	468	1,716	0.4	12.1	7.3	1.2
55—59 “.....	297	807	247	1,351	0.2	13.5	3.8	0.9
60—64 “.....	198	824	130	1,152	0.1	13.8	2.0	0.8
65 years or over.....	176	1,882	65	2,123	0.1	31.5	1.0	1.5
Totals, Stated Ages..	133,104	5,970	6,442	145,516	100.0	100.0	100.0	100.0
Age not stated.....	3	—	—	3	...	...	...	...
Totals, All Ages.....	133,107	5,970	6,442	145,519	91.5	4.1	4.4	100.0
Average ages.....yrs.	25.3	56.5	38.5	27.2	...	...	...	...
Median ages ¹ “	23.7	58.3	36.9	24.1	...	...	...	...

¹ The ages below and above which half of the marriages occurred.

Religious Denominations of Brides and Bridegrooms.—The distribution of brides and bridegrooms by religious denominations is roughly the same as that for the population as a whole. Table 29 shows the very strong influence that religion has on marriage. Nearly 69 p.c. of all marriages are between persons of the same religious denomination; in 1965 among those of Jewish faith it was about 90 p.c.; among Roman Catholics about 86 p.c.; United Church about 57 p.c.; and Eastern Orthodox about 68 p.c.

29.—Marriages by Religious Denominations of Contracting Parties, 1965

Denomination of Bridegroom	Denomination of Bride										Total Marriages	P.C. of Grooms
	Angli-can	Bap-tist	East-ern Ortho-dox	Jew-ish	Luth-eran	Pres-byter-ian	Roman Catho-lic ¹	United Church	Other Sects	Not Stated		
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.		
Anglican.....	7,726	598	91	14	431	756	2,571	3,700	765	6	16,658	11.4
Baptist.....	665	2,117	24	3	129	171	588	958	344	3	5,002	3.4
Eastern Orthodox.....	147	25	1,873	5	87	23	428	256	77	1	2,922	2.0
Jewish.....	30	6	3	1,450	11	14	71	34	36	—	1,655	1.1
Lutheran.....	600	146	71	2	1,928	135	925	1,003	339	1	5,150	3.5
Presbyterian.....	814	173	31	6	131	1,639	781	1,223	212	2	5,012	3.4
Roman Catholic ¹	2,668	519	296	29	789	605	60,056	3,476	1,156	6	69,600	47.8
United Church.....	3,825	818	172	16	856	1,085	3,328	15,620	1,202	5	26,927	18.5
Other sects.....	1,006	366	67	35	362	259	1,558	1,609	7,265	4	12,531	8.6
Not stated.....	6	4	1	—	2	1	14	5	9	20	62	...
Totals.....	17,487	4,772	2,629	1,560	4,726	4,685	70,320	27,884	11,405	48	145,519	100.0
P.C. of brides....	12.0	3.3	1.8	1.1	3.2	3.2	48.3	19.2	7.8	...	100.0	68.5 ²

¹ Includes Greek Catholic denomination.

² Percentage of marriages between contracting parties of the same religious

Subsection 2.—Divorces

Before World War I the number of divorces granted in Canada represented less than one per 1,000 of the yearly number of marriages. After that War, however, there was a definite upward trend; the number advanced to 8,213 in 1947, declined gradually to a postwar low of 5,270 in 1951 and since then has again moved sharply upward; the 1966 preliminary figure of 10,215 was the highest on record.

30.—Dissolutions of Marriage (Divorces), by Province, 1941-66

NOTE.—Figures for individual years from 1900 to 1953 are given in the 1956 Year Book, p. 230, and for 1954-63 in the 1965 edition, pp. 263-264.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
NUMBERS											
Av. 1941-45 .....	..	2	92	104	99	1,398	305	207	432	937	3,576
" 1946-50 .....	..	21	185	245	303	2,839	500	383	724	1,676	6,877
" 1951-55	5	10	212	167	327	2,430	356	231	612	1,461	5,811
" 1956-60	5	4	227	194	403	2,801	315	247	788	1,514	6,498
" 1961-65	5	8	277	199	380	3,342	376	298	1,226	1,592	7,723 ¹
1964	7 ²	5	315	210	834 ²	3,508	418	315	1,389	1,596	8,623 ³
1965	3	16	323	237	226	4,087	443	312	1,348	1,961	8,974 ⁴
1966 ^p	11	18	406	155	988	4,077	524	321	1,567	2,124	10,215 ⁵
RATES PER 100,000 POPULATION											
Av. 1941-45 .....	..	2.2	15.4	22.4	2.9	35.8	42.0	24.4	54.3	104.8	30.3
" 1946-50 .....	..	22.1	29.7	49.3	8.0	66.4	66.8	45.9	84.6	155.8	53.0
" 1951-55	1.3	9.8	32.0	31.4	7.6	49.2	44.0	26.9	60.3	116.8	39.1
" 1956-60	1.2	4.0	32.0	33.9	8.2	48.4	35.9	27.6	65.3	99.8	38.2
" 1961-65	1.0	7.9	36.8	32.5	7.0	51.7	39.8	31.8	87.7	93.5	40.9 ¹
1964	1.4 ²	4.7	41.4	34.0	15.0 ²	53.3	43.6	33.4	97.0	91.8	44.8 ³
1965	0.6	14.8	42.4	38.0	4.0	60.7	46.0	32.8	92.9	109.6	45.9 ⁴
1966 ^p	2.2	16.6	53.7	25.1	17.1	58.6	54.4	33.6	107.1	113.4	51.0 ⁵

¹ Includes 17 in Yukon Territory and three in the Northwest Territories.

passed by the House of Commons during the 1964-65 Session of Parliament.

and two in the Northwest Territories.

² Includes Bills of Divorce

³ Includes 24 in Yukon Territory

⁴ Includes 12 in Yukon Territory and six in the Northwest Territories.

⁵ Includes 21 in Yukon Territory and three in the Northwest Territories.

Section 6.—Canadian Life Tables

Five official series of life tables for Canada and the provinces and regions have been published to date, based on deaths in the three-year period around each of the Censuses of 1931, 1941, 1951, 1956 and 1961. The life table values for 1961 are given in abbreviated form in Table 31.

Life tables give some measure of the health and general conditions of survival of an 'artificial' population in a conventional, standard form. A hypothetical number (100,000) of births of each sex is assumed as a starting point. The life tables show how, on the basis of the mortality rates at each age in the given years, these 100,000 of each sex are reduced in number by death. For example, during the year 1961, of 100,000 males born, 3,058 would have died in their first year, according to the mortality rates in effect during the period 1960-62, so that 96,942 would survive to one year of age; 179 would have died in their second year so that 96,763 survived to two years of age, and so on. At 100 years of age only 105 of the original 100,000 would have survived. The probability of death at each age is the ratio between the number of deaths and the population at each age. Finally, the expectation of life is the number of years which a person on the average might expect to live if the mortality rates in the given years remained constant throughout his lifetime.

Mortality rates at all ages for males have been almost consistently higher than for females. Males have the highest risk of mortality as compared with females during their first year of life, from their late teens to early 30s and from age 50 to 65. For both boys and girls the risk of mortality drops rapidly during childhood and is lowest at about age 10, increases gradually to about age 40 for males and about 50 for females and then rises steeply with advancing age. As an illustration of the information available from study of the life tables, it may be observed that at the mortality rates given in the 1961 life table (see Table 31) about 12,100 males would have died before reaching age 50 as compared with about 7,600 females; only 57,517 of the original group of 100,000 males would have survived to age 70 as compared with 72,746 females.

31.—Canadian Life Table, 1961

Age	Males				Females			
	Number Living at Each Age	Number Dying Between Each Age and the Next	Probability of Dying Before Reaching Next Birthday	Expectation of Life	Number Living at Each Age	Number Dying Between Each Age and the Next	Probability of Dying Before Reaching Next Birthday	Expectation of Life
				yrs.				yrs.
At birth.....	100,000		.03058	68.35	100,000		.02387	74.17
1 year.....	96,942	3,058	.00185	69.50	97,613	2,387	.00164	74.98
2 years.....	96,763	179	.00114	68.63	97,453	160	.00096	74.11
3 ".....	96,653	110	.00099	67.71	97,359	94	.00071	73.18
4 ".....	96,557	96	.00083	66.78	97,290	69	.00061	72.23
5 ".....	96,477	80	.00073	65.83	97,231	59	.00053	71.27
10 ".....	96,185	292	.00050	61.02	97,035	196	.00029	66.41
15 ".....	95,903	282	.00089	56.20	96,888	147	.00040	61.51
20 ".....	95,348	555	.00153	51.51	96,659	229	.00055	56.65
25 ".....	94,577	771	.00157	46.91	96,378	281	.00064	51.80
30 ".....	93,867	710	.00150	42.24	96,045	333	.00079	46.98
35 ".....	93,109	758	.00193	37.56	95,612	433	.00115	42.18
40 ".....	92,061	1,048	.00282	32.96	94,958	654	.00174	37.45
45 ".....	90,486	1,575	.00465	28.49	93,966	992	.00277	32.82
50 ".....	87,896	2,590	.00772	24.25	92,394	1,572	.00436	28.33
55 ".....	83,797	4,099	.01265	20.30	90,000	2,394	.00675	24.01
60 ".....	77,546	6,251	.01999	16.73	86,387	3,613	.01064	19.90
65 ".....	68,774	8,772	.02972	13.53	80,916	5,471	.01718	16.07
70 ".....	57,517	11,257	.04467	10.67	72,746	8,170	.02774	12.58
75 ".....	43,791	13,726	.06706	8.21	61,052	11,694	.04664	9.48
80 ".....	28,936	14,855	.10091	6.14	45,161	15,891	.07941	6.90
85 ".....	15,271	13,665	.15231	4.46	26,884	18,277	.13118	4.89
90 ".....	5,647	9,624	.22712	3.16	11,262	15,622	.20708	3.39
95 ".....	1,196	4,451	.33123	2.20	2,723	8,539	.31226	2.32
100 ".....	105	1,091	.47051	1.49	278	2,445	.45185	1.56

By 1961, life expectancy *at birth* in Canada had reached a new high point of 68.4 years for males and about 74.2 for females—comparable to the expectancy for other countries of the world with highly developed programs of medical and public health care. Once a child has passed its first year of life, however, its life expectancy increases appreciably. At one year of age a male child *at present mortality risks* may, on the average, expect to live an additional 69.5 years and a female almost 75 years, representing for an infant boy a gain of 1.2 years over his expectation at birth and for an infant girl a gain of 0.8 years. The expectation of life of a 15-year-old boy is 56.2 additional years; of a 15-year-old girl 61.5 years. At 25 years of age the expectation is about 46.9 years for men and 51.8 years for women and at age 70, 10.7 years for men and 12.6 years for women.

Table 32 summarizes the life expectancy figures extracted from the Canadian life tables for 1931, 1941, 1951, 1956 and 1961. According to these figures, life expectancy at birth for men increased about three quarters of a year between 1956 and 1961 and 1.3 years between 1951 and 1956, compared with 3.4 years from 1941 to 1951 and 2.9 years from 1931 to 1941; females gained one and one quarter years between 1956 and 1961 and 2.1 years between 1951 and 1956, compared with 4.5 years and 4.2 years, respectively, in the preceding decades. Thus, from 1931 to 1961 a total of 8.4 years was added to male life expectancy and 12.1 years to female longevity.

The increases in life expectancy have been predominantly at the younger ages, particularly in infancy, and diminish with advanced age. For example, from 1931 to 1961, 3.5 years were added to the life expectancy of a five-year-old male, 2.5 years to a 20-year-old, about one year to a 40-year-old and about half a year to a 60-year-old as compared with 8.4 years for a newborn male. During this period, life expectancy for a five-year-old female gained 8.1 years, for a 20-year-old 6.9 years, for a 40-year-old 4.4 years and for a 60-year-old two and three quarter years as compared with 12.1 years for a newborn female.

Longevity improved for both sexes, though more so and at all ages for females, but there was only slight improvement for males beyond middle life. Briefly, the rapid decline in the death rate for infants of both sexes is continuing but the declines are slower with advancing age, so that relatively stationary death rates were established from about 50 years onward for males and from about 80 years onward for females.

The fact that such a pattern exists is important in interpreting the results of these life tables. The arbitrary population base of 100,000 of each sex in the 1956 tables, for example, was subjected to the mortality rates in effect in 1960-62, and the life expectancy computed *as if those death rates at each age were to prevail during their lifetime*. Actually the theoretical 200,000 infants born in 1960-62 will most probably have a pattern of survival and life expectancy quite different from that of the present life tables as they will spend most of their lives under conditions of public health and medical care which in all likelihood will be superior to those prevailing in 1960-62.

The improvement in life expectancy, particularly among children and adolescents, was caused mainly by the substantial reduction in recent years in mortality from infectious diseases; on the other hand, diseases associated with middle and old age are much less amenable to control. It is therefore unlikely that improvement in life expectancy in the future will be comparable to that of the past 30 years. As approximately 9 p.c. of deaths in 1960-62 occurred among infants and another 77 p.c. among persons over age 50, any additional improvement must come as the result of further declines in mortality from conditions associated with childbirth and early infancy, further control of infectious diseases, prevention of accidents, and advances in combating diseases associated with middle and old age, such as cardiovascular-renal conditions and cancer.

32.—Expectation of Life, 1931, 1941, 1951, 1956 and 1961

Age	1931		1941		1951		1956		1961	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.
At birth.....	60.00	62.10	62.96	66.30	66.33	70.83	67.61	72.92	68.35	74.17
1 year.....	64.69	65.71	66.14	68.73	68.33	72.33	69.04	73.99	69.50	74.98
2 years.....	64.46	65.42	65.62	68.16	67.56	71.55	68.21	73.15	68.63	74.11
3 ".....	63.84	64.75	64.88	67.38	66.68	70.66	67.31	72.24	67.71	73.18
4 ".....	63.11	63.99	64.07	66.56	65.79	69.74	66.38	71.31	66.78	72.23
5 ".....	62.30	63.17	63.22	65.69	64.86	68.80	65.45	70.35	65.83	71.27
10 ".....	57.96	58.72	58.70	61.08	60.15	64.02	60.67	65.51	61.02	66.41
15 ".....	53.41	54.15	54.06	56.36	55.39	59.19	55.86	60.64	56.20	61.51
20 ".....	49.05	49.76	49.57	51.76	50.76	54.41	51.19	55.80	51.51	56.65
25 ".....	44.83	45.54	45.18	47.26	46.20	49.67	46.61	50.97	46.91	51.80
30 ".....	40.55	41.38	40.73	42.81	41.60	44.94	41.98	46.17	42.24	46.98
35 ".....	36.23	37.19	36.26	38.37	37.00	40.24	37.34	41.40	37.56	42.18
40 ".....	31.98	33.02	31.87	33.99	32.45	35.63	32.74	36.69	32.96	37.45
45 ".....	27.79	28.87	27.60	29.67	28.05	31.14	28.28	32.09	28.49	32.82
50 ".....	23.72	24.79	23.49	25.46	23.88	26.80	24.04	27.65	24.25	28.33
55 ".....	19.88	20.84	19.64	21.42	20.02	22.61	20.12	23.38	20.30	24.01
60 ".....	16.29	17.15	16.06	17.62	16.49	18.64	16.54	19.34	16.73	19.90
65 ".....	12.98	13.72	12.81	14.08	13.31	14.97	13.36	15.60	13.53	16.07
70 ".....	10.06	10.63	9.94	10.93	10.41	11.62	10.51	12.17	10.67	12.58
75 ".....	7.57	7.98	7.48	8.19	7.89	8.73	7.98	9.15	8.21	9.48
80 ".....	5.61	5.92	5.54	6.03	5.84	6.38	5.89	6.75	6.14	6.90
85 ".....	4.10	4.38	4.05	4.35	4.27	4.57	4.27	4.97	4.46	4.89
90 ".....	2.97	3.24	2.93	3.13	3.10	3.24	3.07	3.67	3.16	3.39
95 ".....	2.14	2.40	2.09	2.26	2.24	2.27	2.18	2.74	2.20	2.32
100 ".....	1.53	1.77	1.46	1.64	1.60	1.59	1.52	2.05	1.49	1.56

Table 33 shows provincial or regional life expectancy for males and females at selected ages. According to the 1961 figures, male life expectancy at birth continues to be below 70 and that for females above 72 in all of the five regions. During the period 1931-61, life expectancy at birth for males increased from 60.00 to 68.35, or 8.35 years, varying from 6.32 years for the Prairie Provinces to 11.09 years for Quebec; life expectancy at birth for females rose from 62.10 to 74.17, or 12.07 years, varying from 10.08 years for British Columbia to 14.97 years for Quebec. Quebec showed the greatest improvement of any region among young males and females and middle-aged females, and British Columbia recorded the greatest improvement among middle-aged males.

**33.—Expectation of Life at Selected Ages, by Province or Region, 1931, 1941,
1951, 1956 and 1961**

Province or Region and Age	1931		1941		1951		1956		1961	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.
Atlantic Provinces—¹										
At birth.....	60.20	61.91	61.69	64.63	66.57	70.50	67.91	72.89	68.58	73.92
1 year.....	64.76	65.44	65.68	67.78	69.08	72.41	69.68	74.23	70.06	75.10
20 years.....	49.22	49.62	49.36	51.33	51.59	54.52	51.95	56.01	52.17	56.82
40 years.....	32.73	33.70	32.22	34.19	33.48	35.99	33.58	37.03	33.76	37.70
65 years.....	13.63	14.59	13.13	14.50	13.90	15.42	13.95	15.91	14.16	16.35
Quebec—										
At birth.....	56.19	57.80	60.18	63.07	64.42	68.58	66.13	71.02	67.28	72.77
1 year.....	62.45	62.62	64.45	66.28	67.19	70.71	68.11	72.56	68.71	73.80
20 years.....	47.77	47.73	48.38	49.85	49.76	52.92	50.36	54.43	50.82	55.54
40 years.....	31.04	31.75	30.94	32.72	31.54	34.36	31.91	35.42	32.29	36.38
65 years.....	12.60	13.15	12.44	13.41	12.81	14.17	12.88	14.73	13.16	15.27
Ontario—										
At birth.....	61.30	63.92	64.55	68.43	66.87	71.85	67.80	73.57	68.32	74.40
1 year.....	65.05	66.84	66.74	70.07	68.34	72.91	68.76	74.25	69.14	74.95
20 years.....	48.79	50.13	49.57	52.40	50.58	54.76	50.81	55.95	51.03	56.53
40 years.....	31.56	32.90	31.54	34.11	32.03	35.75	32.24	36.74	32.35	37.27
65 years.....	12.67	13.47	12.63	14.03	13.07	14.92	12.97	15.56	13.05	15.90
Prairie Provinces—										
At birth.....	63.47	65.49	65.43	68.19	68.36	72.28	69.26	74.18	69.79	75.66
1 year.....	67.24	68.30	68.02	70.22	69.90	73.43	70.48	75.06	70.96	76.40
20 years.....	50.98	51.68	51.28	53.08	52.24	55.53	52.55	56.88	52.90	58.08
40 years.....	33.34	34.35	33.32	34.96	33.86	36.63	34.12	37.71	34.37	38.83
65 years.....	13.60	14.40	13.35	14.62	13.88	15.51	14.01	16.20	14.22	17.00
British Columbia—										
At birth.....	62.15	65.34	63.65	68.96	66.73	72.37	68.14	73.91	68.94	75.42
1 year.....	64.55	67.16	65.40	70.17	67.97	73.32	69.19	74.68	69.83	76.00
20 years.....	48.68	51.18	48.99	53.09	50.41	55.51	51.32	56.52	51.85	57.61
40 years.....	32.17	34.27	31.70	35.14	32.45	36.72	33.11	37.49	33.56	38.46
65 years.....	13.36	14.60	12.96	14.83	13.50	15.86	13.72	16.15	13.98	16.94

¹ Figures for 1931 and 1941 are exclusive of Newfoundland.

Section 7.—International Comparisons of Vital Statistics

Table 34 gives a summary of Canada's national and provincial vital statistics rates along with those of several other countries. It will be noted that among the countries listed the low crude death rate in Canada is bettered by three countries—Japan, Venezuela and Union of Soviet Socialist Republics—and that some of the provinces have lower rates than most other countries. The birth rate also helps to give Canada one of the fastest growing populations, currently ranking tenth among those listed. However, 12 countries reported lower rates of infant mortality, some as low as 14 per 1,000 live births (Sweden and Netherlands), as compared with Canada's rate of 23.6.

34.—Principal Vital Statistics Rates of Selected Countries, 1965

NOTE.—Countries are ranked according to the highest rates for births, marriages and natural increase and according to the lowest for deaths.

Source: United Nations publications.

Country or Province	Births		Deaths		Infant Mortality		Neonatal Mortality ¹		Maternal Mortality		Marriages		Natural Increase	
	Rate ²	Rank	Rate ³	Rank	Rate ³	Rank	Rate ³	Rank	Rate ⁴	Rank	Rate ⁵	Rank	Rate ⁶	Rank
Australia.....	19.6	15	8.8	10	19.1 ⁵	8	13.6 ⁵	7	3.3 ⁵	10	8.2	9	10.8	16
Austria.....	17.9	24	13.0	30	27.9	19	21.2	21	4.9 ⁵	17	7.8	12	4.9	29
Belgium.....	24	29	12.1	28	24.0	15	17.6 ⁵	15	3.1 ⁶	6	7.0	24	4.3	30
Canada.....	21.4	10	7.6	4	23.6	13	16.3	13	3.2	7	7.4	19	13.8	7
Canada—Ontario.....	29.6	...	6.5	...	31.1	...	17.2	...	3.4	...	6.9	...	23.1	...
Canada—Quebec.....	23.3	...	9.6	...	29.4	...	19.5	...	—	...	6.6	...	13.7	...
Canada—Prince Edward Island.....	21.7	...	8.3	...	23.8	...	15.9	...	5.4	...	7.3	...	13.4	...
Canada—Nova Scotia.....	22.8	...	7.6	...	23.0	...	14.7	...	3.5	...	7.7	...	15.2	...
New Brunswick.....	21.3	...	6.8	...	26.2	...	18.4	...	3.5	...	7.2	...	14.5	...
Quebec.....	21.0	...	8.1	...	20.5	...	15.1	...	3.1	...	7.6	...	12.9	...
Ontario.....	21.0	...	8.0	...	23.0	...	15.2	...	3.0	...	7.3	...	12.8	...
Manitoba.....	20.8	...	7.8	...	24.5	...	16.3	...	4.4	...	7.2	...	13.7	...
Saskatchewan.....	21.5	...	6.6	...	24.0	...	17.1	...	1.2	...	7.7	...	15.9	...
Alberta.....	22.5	...	6.6	...	20.7	...	13.7	...	3.0	...	7.6	...	10.0	...
British Columbia.....	18.8	...	8.8	...	20.7	...	13.7	...	—	...	7.2	...	21.8	...
Yukon Territory.....	28.5	...	6.7	...	49.1	...	25.0	...	8.4	...	5.5	...	39.7	...
Northwest Territories.....	47.6	...	7.9	...	63.8	...	26.0	...	—	...	5.5	...	20	...
Chile.....	32.8 ⁵	3	11.2 ⁵	24	114.2 ⁵	30	37.8 ⁵	28	31.5 ⁵	27	7.2 ⁶	20	21.9	4
Denmark.....	18.0	23	10.1	19	18.7	6	14.8 ⁶	9	1.6 ⁵	1	8.8	5	7.9	22
France.....	18.1	22	11.5	26	19.0	7	13.0	6	2.5	4	7.8	12	6.6	26
England and Wales.....	17.0	28	9.7	17	17.4	4	13.7 ⁵	8	4.2 ⁵	16	7.8	12	7.3	23
Finland.....	17.7	26	11.1	23	22.1	11	15.4	10	3.3 ⁵	10	7.1	22	6.6	25
France.....	17.9	24	11.2	24	23.9	14	18.4	18	6.9 ⁵	19	8.3	8	6.7	26
Germany, Federal Republic of.....	20.3 ⁶	13	8.6 ⁶	6	77.6 ⁶	28	17.3	14	2.7	5	5.8	27	11.7 ⁶	13
India.....	22.2	13	11.5	26	25.3	18	17.3	14	2.7	5	5.8	27	10.7	17
Ireland.....	19.2	18	10.0	18	35.6	23	23.3 ⁶	23	8.8 ⁶	22	7.7	17	9.2	22
Italy.....	18.6	20	7.1	16	20.4 ⁶	10	12.4 ⁶	4	9.8 ⁶	23	9.7	1	11.5	14
Japan.....	44.2	1	9.5	10	66.3 ⁶	26	24.5 ⁶	24	18.1 ⁶	26	6.8	25	34.7	2
Netherlands.....	19.9	14	8.0	5	14.4	2	11.4	1	3.3 ⁵	10	8.8	5	11.9	12
New Zealand.....	22.8	7	8.7	7	19.5	9	12.4 ⁶	4	3.2 ⁵	7	8.2	22	14.1	5
Norway.....	23.1	6	10.6	22	25.0	17	17.7	16	3.2	7	7.1	22	12.5	9
Northern Ireland.....	17.5	27	9.1	12	16.8 ⁶	3	11.9 ⁶	3	2.3 ⁵	3	6.8	25	8.4	21
Peru.....	32.0 ⁵	4	8.9 ⁵	11	83.5 ⁵	29	35.3 ⁵	27	—	...	4.5 ⁶	29	23.1 ⁶	3
Portugal.....	22.8	8	10.3	21	63.8	25	26.0 ⁵	25	8.4 ⁵	21	8.2	29	12.5	9
Spain.....	19.3	17	12.1	12	23.1	12	15.9	12	3.8	15	7.8	12	7.2	24
Sweden.....	21.3	10	8.7	7	28.9 ¹¹	23	19.2 ¹¹	20	6.0 ⁶	18	7.2	20	12.6	8
Switzerland.....	15.9	30	10.1	19	14.2 ⁶	21	11.7 ⁶	2	2.0 ⁶	2	7.8	12	5.8	28
Sweden.....	18.7	19	9.3	14	17.7	5	15.6 ⁶	11	3.5 ⁶	14	7.6	18	9.1 ⁶	19
South Africa (Whites).....	23.2 ⁶	5	9.1 ⁶	12	29.9 ⁶	20	18.5 ⁶	19	6.9 ⁷	19	9.1 ⁶	3	14.1 ⁶	5
Union of Soviet Socialist Republics.....	18.5	21	7.3	15	28.0	20	17.7	16	3.3 ⁵	10	9.2	2	11.2	15
United States.....	19.4	16	7.3	13	24.8	16	22.8 ⁶	22	9.5 ⁶	22	10.0	7	10.0	18
Venezuela.....	43.4 ⁵	2	7.2 ⁵	8	49.3 ⁵	24	31.7 ⁵	26	13.7 ⁵	25	5.6 ⁵	28	36.2 ⁵	1
Yugoslavia.....	20.9	12	8.7	7	71.5	27	31.7 ⁵	26	—	...	8.9	4	12.2	11

¹ Under 28 days unless otherwise stated.² Per 1,000 population.³ Per 1,000 live births.⁴ Per 10,000 live births.⁵ 1960.⁶ 1963.⁷ 1962.⁸ Registration area only.⁹ Excluding children born alive but dead before registration of their birth.

CHAPTER VI.—PUBLIC HEALTH, WELFARE AND SOCIAL SECURITY*

CONSPECTUS

	PAGE		PAGE
Part I.—Public Health	293	SECTION 2. FEDERAL-PROVINCIAL PROGRAMS	332
SECTION 1. FEDERAL HEALTH ACTIVITIES ..	293	Subsection 1. Canada Assistance Plan...	332
Subsection 1. Medical Care and the Health Resources Fund.....	293	Subsection 2. Unemployment Assistance..	333
Subsection 2. National Health Grant Program.....	294	Subsection 3. Old Age Assistance.....	334
Subsection 3. Hospital Insurance.....	296	Subsection 4. Allowances for Blind Persons.....	335
Subsection 4. Food and Drug Control...	298	Subsection 5. Allowances for Disabled Persons.....	336
Subsection 5. Medical Services.....	300	Subsection 6. Fitness and Amateur Sport Program.....	336
Subsection 6. Radiation Protection.....	301	Subsection 7. National Welfare Grant Program.....	337
Subsection 7. Health Research and International Health.....	302	Subsection 8. Vocational Rehabilitation..	338
Subsection 8. Consultative and Technical Services and Special Programs.....	303	SECTION 3. PROVINCIAL WELFARE PROGRAMS	339
SECTION 2. PROVINCIAL AND LOCAL HEALTH SERVICES	304	Subsection 1. General Assistance.....	339
Subsection 1. Public Health Services.....	305	Subsection 2. Mothers' Allowances.....	340
Subsection 2. Services for Specific Diseases or Disabilities.....	306	Subsection 3. Living Accommodation for Elderly Persons.....	340
Subsection 3. Public Medical Care Insurance and Programs.....	308	Subsection 4. Child Welfare Services...	341
Subsection 4. Services for the Disabled and Chronically Ill.....	310	Subsection 5. Quebec's Family Allowances Program.....	342
SECTION 3. HOSPITAL AND OTHER HEALTH STATISTICS	311	SECTION 4. INTERNATIONAL WELFARE	342
Subsection 1. Hospital Statistics.....	312	Part III.—Health and Social Welfare Expenditures	342
Subsection 2. Notifiable Diseases.....	322	SECTION 1. GOVERNMENT EXPENDITURES ON HEALTH AND SOCIAL WELFARE	342
Subsection 3. Numbers of Physicians and Earnings of Those in Private Practice.	324	SECTION 2. EXPENDITURES ON PERSONAL HEALTH CARE	344
Part II.—Public Welfare and Social Security	326	Part IV.—National Voluntary Health and Welfare Activities	346
SECTION 1. FEDERAL GOVERNMENT PROGRAMS	326	Part V.—Veterans Services	346
Subsection 1. Canada Pension Plan....	326	SECTION 1. PENSIONS AND ALLOWANCES ...	347
Subsection 2. Old Age Security and Guaranteed Income Supplement.....	329	SECTION 2. WELFARE SERVICES	350
Subsection 3. Family Allowances.....	330	SECTION 3. TREATMENT SERVICES	351
Subsection 4. Youth Allowances.....	331	SECTION 4. LAND SETTLEMENT AND HOUSE CONSTRUCTION	352
		SECTION 5. COMMONWEALTH WAR GRAVES COMMISSION	353

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Canada's growth in recent years has intensified many problems in the planning of health and welfare services and has shifted the emphasis toward new approaches and new programs. General prosperity, growing urbanization and industrialization, larger numbers of children and older persons in the population, and new concepts and knowledge in health and welfare matters have all contributed to needs for additional services. Several important developments in health and social welfare took place in Canada during 1966-67.

* Except where otherwise indicated, this Chapter was prepared (August 1967) by the Research and Statistics Directorate of the Department of National Health and Welfare, Ottawa.

The first Canadian Conference on Aging, sponsored by the Canadian Welfare Council in Toronto in January 1966, sought ways and means of improving the life of older people. Delegates represented labour, management, professional organizations, voluntary organizations and the churches. The report of the Special Committee of the Senate on Aging, released in February 1966, recommended a guaranteed income for older people, improvements in housing, health and institutional care, social services, community participation, recreation programs, and the establishment of a national commission on aging.

The Canada Pension Plan Act (SC 1964-65, c. 51) became operative on Jan. 1, 1966, establishing for the first time in Canada a comprehensive social insurance program of contributory, old age, disability and survivors' pensions (see pp. 326-329). The Quebec Pension Plan came into operation on the same date. (The Canada Pension Plan does not operate in Quebec because the legislation provides that the plan will not be operative in a province that establishes its own comparable program.) The Canada and Quebec Plans are almost identical and are to be so closely co-ordinated that a person may contribute under one Plan or the other, or to both Plans interchangeably, during his contributory period and receive the same benefits as if he had contributed to one Plan throughout this period.

The enactment of the Canada and Quebec Pension Plans emphasized the need for uniform private pension legislation across Canada. Quebec enacted the Supplemental Pension Plans Act with effect from July 15, 1965; the Ontario Pension Benefits Act was amended with effect from July 30, 1965; the Alberta Pension Benefits Act came into force on Jan. 1, 1967; and that of Saskatchewan was assented to on Apr. 1, 1967. The Pension Benefits Standards Act of Canada, relating to persons employed in works, undertakings and businesses (generally, banks and interprovincial transportation and communication services) under federal jurisdiction, was assented to on Mar. 23, 1967. All these Acts regulate private pension plans, ensure portability and solvency of the private plans, and require the provision of information to their members.

An amendment to the federal Agricultural Rehabilitation and Development Act (ARDA), assented to on May 12, 1966, renamed it the Agricultural and Rural Development Act and widened its scope correspondingly. This Act has important implications for welfare, in that its goals include "the development of income and employment opportunities" and "the improvement of standards of living". Related to ARDA is the Fund for Rural Economic Development Act, assented to on July 11, 1966, which provides funds for projects designed to develop particular areas under agreement with the provinces concerned. The amount of the Fund, originally \$50,000,000, was increased to \$300,000,000 by an amendment assented to on Mar. 10, 1967. (See Chapter X.)

The Canada Assistance Plan, assented to on July 15, 1966, provides for a comprehensive welfare system to replace the programs for specific categories, such as old age assistance, blind and disabled persons' allowances, and unemployment assistance. It extends previous social assistance and welfare coverage and substitutes a needs test for a test of means as a qualification for assistance. Provincial programs for persons in need, including health care services, will be supported by federal-provincial cost-sharing arrangements (see pp. 332-333).

The federal Medical Care Act, which provides for the setting up of a comprehensive medical care insurance program, was assented to on Dec. 21, 1966, to come into effect not later than July 1, 1968. There are three voluntary provincial plans in operation involving subsidization of premiums for low-income groups: the Alberta Health Plan (an extension of the former Alberta Medical Plan) began paying benefits on July 1, 1965; the British Columbia Medical Plan took effect on Sept. 1, 1965; and the Ontario Medical Services Insurance Plan took effect on July 1, 1966. (See pp. 308-310.)

The Health Resources Fund Act, given Royal Assent on July 11, 1966, provides \$500,000,000 over the period 1966-80 to assist provinces in the acquisition, construction and renovation of health training facilities and research institutions (see p. 294).

An amendment to the federal Old Age Security Act, effective Jan. 1, 1967, provides guaranteed income supplements to recipients of Old Age Security who have little or no other income. The maximum amount of the supplement is \$30 a month (see pp. 329-330).

PART I.—PUBLIC HEALTH

Provincial governments bear the major responsibility for health services in Canada, with the municipality often assuming considerable authority over matters delegated to it by provincial legislation. The Federal Government has jurisdiction over a number of health matters of a national character and provides important financial assistance to provincial health and hospital services. All levels of government are aided and supported by a network of voluntary agencies working in different health fields.

Section 1.—Federal Health Activities

The Department of National Health and Welfare is the chief federal agency in health matters but important treatment programs are also administered by the Departments of Veterans Affairs and National Defence. The Dominion Bureau of Statistics is responsible for collection, analysis and publication of national health statistics, the Medical Research Council and the Defence Research Board administer medical research programs, and the Canada Department of Agriculture has certain health responsibilities connected with food production.

The Department of National Health and Welfare controls food and drugs, including narcotics, operates quarantine and immigration medical services, carries out international health obligations, and provides health services to Indians, Eskimos and other special groups. It advises on the visual eligibility of applicants for blindness allowances and co-operates with the provinces in the provision of surgical or remedial treatment for recipients of the allowances. Under the Public Works Health Act, supervision of health conditions is provided for persons employed on federal public works. Health counselling and medical supervision are provided for the federal Public Service. The Department also administers the civil aviation medical program for the Department of Transport.

The Department serves the provinces in an advisory and co-ordinating capacity and administers grants to provincial health and national voluntary agencies. Administration of federal aspects of the Health Resources Fund and the Hospital Insurance and National Health Grant Programs is a major activity. Co-ordination with the provinces on health matters is facilitated by the Dominion Council of Health, the principal advisory agency to the Minister of National Health and Welfare. Its membership includes the Deputy Minister of National Health, who acts as chairman, the chief health officer of each province, and five appointees of the Governor in Council. The Council meets semi-annually. Federal-provincial technical advisory committees of the Council deal with specific aspects of public health.

Subsection 1.—Medical Care and the Health Resources Fund

Public Medical Care.—The Medical Care Act was passed by the Canadian Parliament in December 1966 and is to become operative not later than July 1, 1968. The provisions of this statute are based on principles outlined by the Prime Minister in July 1965, when he announced the intention of the government to make available to the provinces federal financial contributions for provincially administered medical care programs.

In accordance with the terms of the Medical Care Act, the federal government contributes to any participating province half the per capita cost of all insured services furnished under the plans of all participating provinces multiplied by the number of insured persons in that one province. In order to benefit from this federal contribution, a provincial plan must meet the following criteria:—

- (1) the plan must be operated on a non-profit basis by a public authority set up by the provincial government, and subject in respect of its accounts and financial transactions to provincial audit;
- (2) the plan must make available on uniform terms and conditions to all insurable residents of the province, insured services, which are defined as all medically necessary services rendered by medical practitioners, for whom the provincial law must provide reasonable compensation so as to ensure reasonable access to insured services by insured persons;
- (3) the plan must give entitlement to not less than 90 p.c. of the total number of eligible residents of the province during the first two years and not less than 95 p.c. thereafter;
- (4) for persons normally resident in Canada, the plan does not impose any minimum period of residence, although a waiting period of up to three months for entitlement within a province is permissible if 'portability' is provided for, so that persons retain coverage when temporarily absent from the province or during any waiting period, of not more than three months, for benefits in another province on change of residence.

In addition to the comprehensive physicians' services which must be provided as insured services by participating provinces, the Medical Care Act empowers the government to include any additional health services under terms and conditions that may be specified by the Governor in Council. All insured services must be provided without exclusion because of age, ability to pay or other circumstances.

The Canada Assistance Plan (see pp. 332-333) provides for federal contributions of half the costs of health care services (as well as income maintenance) that provinces make available to persons establishing eligibility on the basis of financial need.

Health Resources Fund.—Supplementing the medical care program is the Health Resources Fund, which supports the construction of research establishments, teaching hospitals, medical schools and training facilities for nurses and other professionals in the field of health care. The Health Resources Fund Act was enacted in July 1966 and supporting regulations were passed in February 1967. The Fund contains \$500,000,000 to be appropriated during the 15-year period 1966-80, out of which the Government of Canada will pay up to one half the costs of construction, acquisition, renovation and basic equipment for training and research facilities, including the costs of planning but excluding the costs of land, interest and lodgings. Of the \$500,000,000, \$300,000,000 is to be distributed among the provinces in proportion to their population and \$25,000,000 goes to the Atlantic Provinces for joint projects; the remaining \$175,000,000 is yet to be allocated by the Federal Government. During the year ended Mar. 31, 1967, the first year of the operation of the Act, four projects were approved, for which the contribution under the Act was \$15,000,000.

Subsection 2.—National Health Grant Program

The National Health Grant Program, inaugurated in 1948, makes federal grants available to the provinces for the developing and strengthening of public health and hospital services. Changes have been made over the years to provide additional funds, increase flexibility and meet changing circumstances. Table 1 shows the changes in the grants structure and the present arrangement under nine continuing grants as follows: Professional Training, Hospital Construction, Mental Health, Tuberculosis Control, Public Health Research, General Public Health, Cancer Control, Medical Rehabilitation and Crippled Children, and Child and Maternal Health. During the period 1948-66, the total grant expenditure was \$662,580,518, representing 80 p.c. of the funds available, with the expenditure pattern showing a higher-than-average percentage of utilization in the later years of this period.

The largest single grant has been directed to hospital construction. Up to Mar. 31, 1967, assistance for construction of hospital beds and auxiliary accommodation had been approved for 125,898 hospital beds and 15,636 bassinets, 24,012 beds for nurses and 919 beds for interns. Continuing federal expenditure under the General Public Health Grant, the second largest grant, has assisted the provinces in maintaining and extending surveillance by local health personnel across the country against epidemiological and environmental health hazards. Since 1948 more than 46,000 health and hospital personnel have received grant funds for special training and in 1966-67 alone more than 6,000 health workers were employed with grant assistance. Other grants are designated for specific areas of service, such as the prevention and treatment of mental health and tuberculosis, cancer control, reduction of infant mortality and improvement of maternity, infant and child care, medical rehabilitation and prevention and treatment of crippling conditions in children and adults.

1.—Amounts Available and Amounts and Percentages Expended under the National Health Grant Program, by Grant, for the Eighteen-Year Period Ended Mar. 31, 1966, and for the Year Ended Mar. 31, 1967.

Grant	1948-66 Period ¹			Year Ended Mar. 31, 1967 ²		
	Amount Available	Amount Expended	Percentage Expended	Amount Available	Amount Expended	Percentage Expended
	\$	\$		\$	\$	
Crippled Children ³	6,207,728	4,431,677	71	—	—	—
Professional Training.....	17,191,644	16,547,735	96	1,411,376	1,447,950	103
Hospital Construction.....	252,419,132	233,945,344	93	20,367,320	16,473,944	81
Veneral Disease Control ⁴	5,968,336	5,146,209	86	—	—	—
Mental Health.....	126,734,488	107,531,187	85	6,254,322	6,030,278	96
Tuberculosis Control.....	67,968,562	63,720,635	94	1,202,903	1,641,797	136
Public Health Research.....	18,640,558	16,286,456	87	4,501,330	4,242,903	94
Health Survey ⁵	645,180	540,960	84	—	—	—
General Public Health.....	173,624,051	125,007,662	72	12,113,371	11,282,604	93
Cancer Control.....	62,489,353	45,476,985	73	1,387,630	1,122,426	81
Laboratory and Radiological Services ⁶	47,404,300	14,450,881	30	—	—	—
Medical Rehabilitation ⁷	6,500,000	3,016,750	46	—	—	—
Medical Rehabilitation and Crippled Children ⁸	16,410,550	11,157,137	68	2,071,457	1,876,895	91
Child and Maternal Health ⁹	22,173,700	15,320,900	69	1,351,012	826,809	61
Totals.....	824,377,552	662,580,518	80	50,660,721	44,945,606	89

¹ Amounts available as set out in the Orders in Council and amounts expended for all types of grants to all provinces.

² Figures for the year ended Mar. 31, 1967 apply to grant allocations and payments for Public Health Research and Hospital Construction in all provinces but exclude the respective amounts under all other types of grants that apply to the Province of Quebec; \$10,113,679 in amounts available to Quebec and an estimated expenditure of \$9,600,000 representing Quebec's share through tax rebate under the Established Programs (Interim Arrangements) Act are therefore not included. Distribution by grant of the 1966-67 payment made to Quebec will be available for inclusion in the next succeeding edition of the Year Book. Expenditures may exceed 100 p.c. of amounts available through transfer of unexpended funds from one grant to another or, in the case of the Hospital Construction Grant, through revote of funds unused in previous years.

³ Merged with Medical Rehabilitation Grant, Apr. 1, 1960.

⁴ Absorbed into General Public Health Grant, Apr. 1, 1960.

⁵ Lapsed in 1953 following the completion of provincial health surveys.

⁶ Introduced in 1953 and absorbed into General Public Health Grant, Apr. 1, 1960.

⁷ Introduced in 1953 and merged with Crippled Children Grant, Apr. 1, 1960.

⁸ Amounts for 1960-66 only; see footnotes ³ and ⁷.

⁹ Introduced in 1953.

Emphasis is changing in the research that is being assisted by grant. Since September 1966, approval of grant support under the Public Health Research Grant requires that the projects show a direct relationship to one of the following aspects of public health: prevention of disease or disability, operational or administrative studies to improve health services, epidemiological studies, or environmental health. Most research in medical sciences and in the clinical fields is therefore excluded from the Public Health Research Grant unless it bears some special relationship to the four areas mentioned. A consolidated account of medical and public health research is given on pp. 302-303.

Subsection 3.—Hospital Insurance

Provincial hospital insurance programs, operating in all provinces and territories since 1961, cover 99 p.c. of the population of Canada. The programs were introduced under the Hospital Insurance and Diagnostic Services Act of 1957, by which the Government of Canada shares with the provinces the cost of providing specified hospital services to insured patients. Specifically excluded are tuberculosis hospitals and sanatoria, hospitals or institutions for the mentally ill, as well as institutions, the purpose of which is the provision of custodial care, such as nursing homes and homes for the aged. The methods of administering and financing the program in each province and the provision of services above the stipulated minimum that is required by the Act are left to the choice of the province.

Insured in-patient services must include accommodation, meals, necessary nursing service, diagnostic procedures, pharmaceuticals, the use of operating rooms, case rooms, anaesthetic facilities, and the use of radiotherapy and physiotherapy if available. Similar out-patient services may be included in provincial plans and authorized for contribution under the Act. All provinces include some out-patient services. The provincial plans are administered by the provincial department of health in some provinces and by a separate commission in others. To finance the insurance plans, the provinces use general revenue, sales taxes and premiums in various combinations.* The Government of Canada contributes, out of the consolidated revenue fund in respect to each province, 25 p.c. of the per capita cost of in-patient services in Canada and 25 p.c. of the per capita cost of in-patient services in the province, which is then multiplied by the average number of insured people in that province. Thus, the total contribution is about 50 p.c. of the shareable cost for all Canada, but the proportion is higher for provinces where the per capita cost is below average and lower for the other provinces. Contributions for insured out-patient services with respect to each province are paid in the same proportion as the contributions to the cost for in-patients.

During 1966, the Government of Canada made the following payments, totalling \$372,700,000: Newfoundland \$12,400,000; Prince Edward Island \$2,600,000; Nova Scotia \$19,300,000; New Brunswick \$15,600,000; Ontario \$185,000,000; Manitoba \$24,600,000; Saskatchewan \$27,100,000; Alberta \$40,400,000; British Columbia \$44,600,000; Yukon Territory \$400,000; and Northwest Territories \$700,000.†

Tables 2 and 3 show data for the hospitals that are listed in hospital insurance agreements for the year 1965. The 1,277 reporting hospitals had a total of 134,619 beds set up at the end of the year or 6.9 beds per 1,000 population. The rate of patient-days per 1,000 population in 1965 was 2,023 for Canada and ranged from 1,501 in Newfoundland to 2,355 in Saskatchewan and 2,521 in the Northwest Territories.

Table 4 shows the expenditures of budget review hospitals. They exclude capital costs, but include expenditures for services that are not covered by hospital insurance plans. The expenditures increased by 13 p.c. over the preceding year to \$1,109,000,000, of which salaries accounted for two thirds. Although budget review hospitals provided only about 88 p.c. of all insured services, the table shows also the per capita amount of their expenditures. This varies greatly between provinces, mainly on account of differences in hospital utilization (patient-days per person per year) and of the amount of care for chronic patients that these hospitals provide.

* Newfoundland, Prince Edward Island, New Brunswick, Quebec and Yukon Territory use general revenue only; Alberta, British Columbia and the Northwest Territories use general revenue and a daily charge at the time of service; Nova Scotia uses general revenue and sales tax; Saskatchewan uses general revenue, premiums and sales tax; and Ontario and Manitoba use general revenue and premiums.

† On Jan. 1, 1965, contributions to Quebec under the Hospital Insurance and Diagnostic Services Act were discontinued and replaced by arrangements under the Established Programs (Interim Arrangements) Act.

2.—Number of Beds in Reporting Hospitals Listed in Hospital Insurance Agreements, with Ratio per 1,000 Population, by Province, as at Dec. 31, 1965

Province	No. of Hospitals Reporting	Beds		Province or Territory	No. of Hospitals Reporting	Beds	
		Number	Rate ¹			Number	Rate ¹
Newfoundland.....	47	2,867	5.8	Saskatchewan.....	158	7,929	8.3
Prince Edward Island..	9	629	5.8	Alberta.....	142	12,073	8.3
Nova Scotia.....	43	4,749	6.2	British Columbia.....	119	12,081	6.8
New Brunswick.....	40	4,049	6.5	Yukon Territory.....	5	160	10.7
Quebec.....	268	35,862	6.3	Northwest Territories..	26	475	19.0
Ontario.....	314	46,741	6.9	Canada.....	1,277	134,619	6.9
Manitoba.....	101	7,004	7.3				

¹ Per 1,000 population; based on intercensal population estimates as at June 1, 1965.

3.—Total Patient-Days and Insured Patient-Days in Hospitals Listed in Hospital Insurance Agreements, with Rates per 1,000 Population, by Province, 1965

Province or Territory	No. of Hospitals Reporting	Total Patient-Days		Patient-Days Paid For by the Insurance Plan of the Reporting Province	
		Number	Rate ¹	Number	Rate ²
Newfoundland.....	48	747,716	1,501	695,012	1,398
Prince Edward Island..	9	176,112	1,631	167,557	1,581
Nova Scotia.....	48	1,308,903	1,720	1,176,141	1,585
New Brunswick.....	40	1,191,804	1,913	1,079,196	1,755
Quebec.....	270	10,781,567	1,906	9,926,175	1,760
Ontario.....	318	14,250,832	2,117	12,861,580	1,941
Manitoba.....	101	1,986,113	2,065	1,767,170	1,868
Saskatchewan.....	158	2,239,828	2,355	2,136,074	2,275
Alberta.....	142	3,342,869	2,304	3,105,432	2,157
British Columbia.....	119	3,486,850	1,649	2,941,211	1,657
Yukon Territory.....	5	23,898	1,593	20,649	1,377
Northwest Territories..	26	63,014	2,521	38,340	1,534
Canada.....	1,284	39,599,506	2,023	35,914,537	1,855

¹ Per 1,000 population; based on intercensal population estimates as at June 1, 1965.

² Per 1,000 persons insured under provincial plans.

4.—Revenue Fund Expenditures of Budget Review Hospitals, by Type of Account and by Province, 1965

Province or Territory	Salaries and Wages	Medical and Surgical Supplies	Drugs	Food	Other Expenses ¹	Total
	AMOUNTS OF EXPENDITURES					
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	10,873	699	1,116	1,726	6,148	20,562
Prince Edward Island.....	2,476	138	174	301	1,210	4,299
Nova Scotia.....	21,284	1,130	1,422	2,258	11,525	37,619
New Brunswick.....	19,260	1,135	1,330	1,951	9,216	32,892
Quebec.....	228,227	10,280	13,136	15,601	71,221	338,465
Ontario.....	263,174	12,443	14,866	18,787	92,145	401,415
Manitoba.....	32,464	1,583	2,123	2,386	10,831	49,387
Saskatchewan.....	35,427	1,669	2,052	2,834	12,803	54,825
Alberta.....	50,347	2,298	2,802	4,911	19,873	80,231
British Columbia.....	59,885	2,808	3,173	4,187	18,811	88,864
Yukon Territory.....	87	6	4	6	44	147
Northwest Territories.....	227	10	13	27	140	417
Canada.....	723,731	34,199	42,251	54,975	253,967	1,109,123

¹ Includes other supplies, electricity, maintenance, services, repairs, interest, depreciation, rent, etc.

4.—Revenue Fund Expenditures of Budget Review Hospitals, by Type of Account and by Province, 1965—concluded

Province or Territory	Salaries and Wages	Medical and Surgical Supplies	Drugs	Food	Other Expenses ¹	Total
EXPENDITURES PER PATIENT-DAY ²						
	\$	\$	\$	\$	\$	\$
Newfoundland.....	15.28	0.98	1.57	2.43	8.65	28.91
Prince Edward Island.....	14.06	0.79	0.99	1.71	6.87	24.41
Nova Scotia.....	18.14	0.96	1.21	1.92	9.83	32.06
New Brunswick.....	17.55	1.03	1.21	1.78	8.40	29.98
Quebec.....	24.91	1.12	1.43	1.70	7.77	36.95
Ontario.....	21.07	1.00	1.19	1.50	7.38	32.14
Manitoba.....	18.34	0.89	1.20	1.35	6.12	27.90
Saskatchewan.....	17.91	0.84	1.06	1.43	6.48	27.72
Alberta.....	16.36	0.75	0.91	1.60	6.46	26.08
British Columbia.....	20.59	0.97	1.09	1.44	6.47	30.55
Yukon Territory.....	30.52	2.02	1.43	2.13	15.64	51.73
Northwest Territories.....	16.48	0.75	0.95	1.55	10.11	30.24
Canada.....	20.94	0.99	1.22	1.59	7.35	32.09
EXPENDITURES PER CAPITA ³						
	\$	\$	\$	\$	\$	\$
Newfoundland.....	21.83	1.40	2.24	3.47	12.35	41.29
Prince Edward Island.....	22.92	1.28	1.61	2.79	11.21	39.81
Nova Scotia.....	27.97	1.48	1.87	2.97	15.14	49.43
New Brunswick.....	30.91	1.82	2.14	3.13	14.80	52.80
Quebec.....	40.34	1.82	2.32	2.76	12.59	59.83
Ontario.....	39.10	1.85	2.21	2.79	13.69	59.64
Manitoba.....	33.75	1.65	2.21	2.48	11.25	51.34
Saskatchewan.....	37.25	1.75	2.20	2.98	13.47	57.65
Alberta.....	34.70	1.58	1.93	3.38	13.70	55.29
British Columbia.....	33.47	1.57	1.77	2.34	10.52	49.67
Yukon Territory.....	5.80	0.38	0.27	0.40	2.98	9.83
Northwest Territories.....	9.08	0.41	0.52	1.08	5.58	16.67
Canada.....	36.98	1.75	2.16	2.81	12.97	56.67
PERCENTAGE DISTRIBUTION						
Newfoundland.....	52.9	3.4	5.4	8.4	29.9	100.0
Prince Edward Island.....	57.6	3.2	4.0	7.0	28.2	100.0
Nova Scotia.....	56.6	3.0	3.8	6.0	30.6	100.0
New Brunswick.....	58.6	3.5	4.0	5.9	28.0	100.0
Quebec.....	67.5	3.0	3.9	4.6	21.0	100.0
Ontario.....	65.5	3.1	3.7	4.7	23.0	100.0
Manitoba.....	65.7	3.2	4.3	4.8	21.9	100.0
Saskatchewan.....	64.6	3.0	3.8	5.2	23.4	100.0
Alberta.....	62.7	2.9	3.5	6.1	24.8	100.0
British Columbia.....	67.4	3.2	3.6	4.7	21.1	100.0
Yukon Territory.....	59.0	3.9	2.8	4.1	30.2	100.0
Northwest Territories.....	54.5	2.5	3.1	6.5	33.4	100.0
Canada.....	65.3	3.1	3.8	5.0	22.9	100.0

¹Includes other supplies, electricity, maintenance, services, repairs, interest, depreciation, rent, etc.

²Excludes the newborn.

³Based on intercensal population estimates as at June 1, 1965.

Subsection 4.—Food and Drug Control

The provisions of the Food and Drugs Act, administered by the Food and Drug Directorate of the Department of National Health and Welfare, apply to the manufacture, advertising, packaging and sale of foods, drugs, cosmetics and medical devices anywhere in Canada. Wide powers are authorized under this legislation to maintain the safety, purity and quality of food and drug products and to prevent misrepresentation in labelling and advertising. There are prohibitions, for example, on the sale of food or drugs that

do not meet prescribed standards, are harmful, adulterated, dirty, improperly stored, or manufactured under unsanitary conditions. The Act also prohibits the advertising of any food, drug, cosmetic or medical device as a preventive or cure for a number of serious diseases and also lists drugs that may be sold only by prescription.

Standards of safety and purity are maintained through constant and widespread inspection and laboratory research. The inspection of food-manufacturing establishments plays a major role in the production of clean, wholesome foods containing ingredients that meet recognized standards. Changing food technology requires the development of methods of laboratory analysis to ensure the safety of new types of ingredients and packaging materials. The Food and Drug Regulations list chemical additives that may be used in foods, the amounts that may be added to each food and the underlying reason. Considerable emphasis is placed upon studies to ensure that the levels of pesticide residues in foods do not constitute a health hazard. The effect of new packaging and processing techniques on the bacteria associated with food spoilage is also of special concern. Since the Act is intended for the protection of consumers, a section of the Directorate obtains consumer opinions, deals with individual consumer complaints and provides information on which consumers can base opinions.

Detailed information on all new drugs must be reviewed by the Directorate to determine compliance with requirements before release for sale is permitted. Drug regulations set standards for drug manufacturing, facilities and controls, and prescribe additional safeguards in the distribution of investigational and new drugs. Drug manufacturing requirements relate to sanitation of facilities, employment of qualified personnel, testing to ensure standards of quality and safety at stated stages of processing, and maintenance of records of testing performance, together with a system of control to enable a complete and rapid recall of any lot or batch of drugs from the market. The controls over clinical trials and marketing of new drugs require detailed information to be submitted to the Directorate concerning the method of manufacture, the tests applied to establish standards of safety and quality, and substantial evidence of the clinical effectiveness of the new drug for the purposes stated. Samples of the final product must also be submitted. Before carrying out clinical trials, a manufacturer also must file complete data on his experience with the drug including any evidence of adverse side effects, and the qualifications of the persons to be engaged in its investigational use. The Minister may suspend clinical testing based on this evidence if he feels that it is in the public interest to do so; in such case the manufacturer has the right to appeal the decision. Drugs expressly prohibited from sale are thalidomide and lysergic acid diethylamide, except under certain conditions as specified in the regulations, whereby sale by a manufacturer to an institution for clinical use or laboratory research by qualified investigators may be approved by the Minister. Any drug that can be classed as a sedative, hypnotic or tranquillizer is listed to be sold only on prescription. The licensing of persons dealing in certain drugs classed as barbiturates and amphetamines is required as well as the keeping of special records and the limitation of their use to medical purposes.

The Food and Drug Directorate administers the Proprietary or Patent Medicine Act, which is concerned with the registration before marketing and the annual licensing of secret-formula medicines sold under proprietary or trade names.

The Directorate conducts an adverse-drug-reaction reporting program in teaching hospitals across Canada to recognize and investigate reactions to drugs. The co-operation of the medical, dental, veterinary and pharmaceutical professions is solicited in advising the Directorate of such reactions in private practice. Close liaison is maintained with the World Health Organization and other authorities in foreign countries for the prompt reporting of such reactions.

Since October 1966, every manufacturer and distributor of drugs in Canada (products registered under the Proprietary or Patent Medicine Act exempt) is required to submit to the Food and Drug Directorate certain information on all products he is marketing in

Canada and each time he intends to market another product, make changes in existing products, or withdraw a product from the market, he must notify the Directorate.

Regulation of the supply and use of narcotic drugs is carried out under the Narcotic Control Act, as revised in 1961. This legislation prescribes a maximum penalty of seven years with no minimum for illegal possession; a maximum penalty of life imprisonment for trafficking; and minimum and maximum penalties of seven years and life imprisonment for illegal export and import. The Royal Canadian Mounted Police and other law-enforcement agencies continue to make every effort to keep the illicit traffic to a minimum.

Subsection 5.—Medical Services

Through its Medical Services Branch, the Department of National Health and Welfare provides several direct and indirect types of medical service, as described in the following paragraphs. "Indirect" services are provided by hiring local services where practicable.

Indians and Eskimos.—Medical and public health services are made available to registered Indians or Eskimos who are not included under provincial arrangements and who are unable to provide for themselves. A large volume of the service in treatment and health education is rendered to patients through 83 Departmental out-patient clinics staffed by medical and other public health personnel. In remote areas, the key facility is frequently the Departmental nursing station, a combined emergency treatment and public health unit having two to four beds under the direction of one or two nurses; 46 of these are operated throughout Canada.

Where practicable, there has been an increasing integration of Indians into provincial and municipal health agencies and the number of hospitals and other facilities provided specifically for them have been reduced accordingly. At present, the Department maintains 15 hospitals at strategic points and co-operates elsewhere with community, mission or company hospitals. Indians are included under all provincial prepaid insurance plans for hospital care and other forms of medical care but in almost all cases the total cost of mental and tuberculosis care is borne directly by the Federal Government. Indian and Eskimo health workers are trained to give instruction in health care and sanitation.

Northern Health.—Because of the special problems in developing health services in the Far North, the Department has been given the responsibility of co-ordinating federal and territorial health care for all residents. In so doing, it undertakes the functions of a health department for the Council of the Northwest Territories and assists the government of the Yukon Territory in the provision of certain health services. Close liaison is maintained with the federal departments directly responsible for administrative matters affecting these areas. Hospital insurance plans are in effect in both territories.

In the Yukon Territory, services for the total population administered through the Commissioner for the Yukon and provided on a cost-sharing basis with the Department of National Health and Welfare include complete treatment for tuberculosis, payment for services rendered at the Alberta cancer clinics, mental hospital care through arrangements with the Province of British Columbia, and medical care for indigent patients. Public health nursing services, measures for control of communicable diseases, and administration of the principal public hospital are primarily the responsibility of the Department.

Similar services are provided in the Northwest Territories. The costs of these services are shared between the respective territorial government and the Departments of National Health and Welfare and Indian Affairs and Northern Development.

Sick Mariners.—The Department provides compulsory prepaid medical, surgical, hospital and other treatment services to crew members of all foreign-going ships arriving in Canada and Canadian coastal vessels in interprovincial trade, and provides medical,

surgical and treatment services on an elective basis to crew members of Canadian fishing and government vessels. (Canadian seamen obtain their hospital care under the provincial hospital insurance plans.)

Quarantine.—Under the Quarantine Act, all vessels, aircraft and other conveyances and their crew and passengers arriving in Canada from foreign countries are inspected by the quarantine officers to detect and correct conditions that could lead to the entry into Canada of such diseases as smallpox, cholera, plague, yellow fever, typhus and relapsing fever. Fully organized quarantine stations are located at all major seaports and airports.

Immigration.—Under the Immigration Act and the Department of National Health and Welfare Act, the Immigration Medical Service conducts in Canada and other countries the medical examination of all applicants for immigration to Canada and also provides treatment for certain classes of persons after arrival in Canada, including immigrants who become ill en route to their destination or while awaiting employment.

Public Service Health Counselling.—Health counselling is offered through Medical Services units to federal employees throughout the country. This service is primarily diagnostic and advisory only but emergency treatment can also be given.

Civil Aviation Medical Inspection Service.—Air pilots and other air personnel are routinely examined for physical and mental fitness for the performance of their duties.

Regulation of Hygienic Standards.—The Department is responsible for regulating hygienic standards on federal property, interprovincial common carriers, Canadian shipping and aircraft.

Coast Guard Medical Service.—The Department provides a medical service for and in conjunction with the Canadian Coast Guard.

Subsection 6.—Radiation Protection

A comprehensive radiation protection program has been developed in Canada in response to the rapidly increasing use of radioactive materials, X-ray equipment, and nuclear reactors in medicine, industry and research, and to the increasing concern about radiation from atmospheric testing of nuclear weapons, from medical X-ray procedures, and from natural radiation sources.

Because of the need for national controls over dealings with uranium and radioactive by-products, the Federal Government has developed regulatory control procedures for the safe handling and use of all radioactive materials. These are implemented through special advisory committees with close collaboration of federal and provincial health departments. Acting as the principal health adviser under the Atomic Energy Control Regulations, the Department of National Health and Welfare reviews all applications for radioisotope licenses and recommends health and safety conditions.

Members of the Department serve on special advisory committees to the Atomic Energy Control Board to review the siting, design, construction and operation of nuclear reactors and charged-particle accelerators and to make recommendations. Although there is no federal regulatory authority to provide health and safety supervision over the use of X-rays, the Department has established a committee on the development of X-ray safety standards to prepare and recommend uniform standards and procedures throughout Canada. The committee has recommended that the sale of such equipment be subject to federal control and its installation to provincial control. Five provinces (Nova Scotia, Quebec, Ontario, Saskatchewan and Alberta) have enacted specific enabling legislation applicable to X-rays and two (Nova Scotia and Saskatchewan) have issued regulations requiring registration of operators and equipment.

The Department provides a number of radiation protection services including external and internal personnel monitoring through its various personnel dosimetry services and its body burden assay service. In addition, it carries out radiation surveys and field studies to assess radiation hazards, serves as the co-ordinator for the federal departments and agencies that are capable of providing specialized assistance in the event of radiation accidents involving possible exposure of members of the public, and provides short-term training courses in radiation protection for persons with varying degrees of responsibility for radiation protection on a day-to-day basis.

The Department operates extensive laboratories for environmental monitoring and research. A nation-wide monitoring program has been developed to assess the exposure of the public to radiation from radioactive fallout from nuclear weapons testing. The Department is assisted in the systematic collection of samples of air, precipitation, soil, wheat, milk and human bone by the federal Departments of Transport and Agriculture and by pathologists in hospitals throughout Canada. Reports of the concentrations of such fallout components as strontium-90 and cesium-137 in these samples are published monthly. Because of a unique food-chain cycle in the Far North, a special study of cesium-137 in that area has been developed. The Department is developing several programs with the objective of meeting the increasing need for better biological data on which to base estimates of radiation dose and is thus improving its capability of providing medical advice concerning the follow-up of persons exposed to ionizing radiation.

Subsection 7.—Health Research and International Health

Health Research.—Health research in Canada is carried on in universities, hospitals, research institutions and government departments. The main sources of financial support are governments, voluntary agencies, charitable foundations, professional bodies and business corporations. In 1962 health research funds amounted to approximately \$10,000,000; by 1966 they were more than \$20,000,000.

The Federal Government conducts intramural medical and dental research within the Department of National Health and Welfare, the Defence Research Board and the Department of Veterans Affairs. The Medical Research Council, the National Research Council, the Department of National Health and Welfare, the Department of National Defence, the Department of Veterans Affairs, the Queen Elizabeth II Fund, and the Smoking and Health Program of the Department of National Health and Welfare have given financial support to extramural research in universities, hospitals and other institutions.

The Medical Research Council, since its formation in 1960, has become the principal federal agency for all medical research except those specialized areas assigned to other agencies including public health, defence and veterans. Primary attention has been given to fundamental research in the basic medical sciences but clinical research is also supported. The Medical Research Council administers most of the federal medical research grants that support full-time investigation by research scientists in Canadian medical schools and their affiliated hospitals. The National Research Council pursues in its broad program many investigations relevant to health. Its Associate Committee on Dental Research administers specific grants for dental research and for training dental-research personnel.

Health research of an applied nature in certain "public health" areas (prevention, epidemiology, environmental and operational) is supported by the Department of National Health and Welfare. Intramural research is conducted by the Food and Drug Directorate, the Medical Services Branch, the Health Insurance and Resources Branch, by several divisions and laboratories of the Health Services Branch and by the Research and Statistics Directorate. The Department's extramural research includes projects relating to smoking and health, public health research, surveys and studies that have been approved by the province prior to receiving assistance under the National Health Grants Program.

The Defence Research Board sponsors both intramural and extramural research on medical problems of defence interest and supports a special unit to conduct research in aviation medicine established at McGill University. The Department of Veterans Affairs maintains a program of medical and dental research in its clinics across Canada dealing mainly with conditions related to aging.

The Queen Elizabeth II Fund for Research in the Diseases of Children, established by the Federal Government in 1959, makes a fixed annual sum available for training researchers and scientists in children's diseases.

The Smoking and Health Research Program was initiated in 1963 as part of an educational and research program on the health hazards of cigarette smoking.

International Health.—Canada actively assists and co-operates with the World Health Organization (WHO) and the other specialized agencies of the United Nations whose programs have a substantial health component or orientation. Capital and technical assistance are provided to developing countries through the Colombo Plan and other bilateral aid programs. Health training is provided for a number of persons coming to Canada each year under the different technical co-operation schemes (see p. 173 and pp. 184-188); during 1966, 133 trainees arrived, bringing the total number of trainees in Canada during the year to 326. These persons were studying in a wide range of health disciplines under the External Aid Program but with greatest concentration in undergraduate medicine and in public health.

Canadian experts in health legislation, health administration, nursing and related areas undertook specific assignments abroad during the year and teachers and specialists in a number of clinical fields were provided in response to requests from the developing countries. Capital assistance, primarily through the provision of cobalt beam therapy units for cancer treatment centres in the Colombo Plan area, was continued. A special feature during the year was the provision of over 600,000 doses of oral polio vaccine for a campaign among children in Saigon, Viet-Nam.

Canada's membership on the Executive Board of UNICEF was renewed at the beginning of 1965. The Deputy Minister of National Welfare, Canada's representative on the Board, was elected Chairman for the period commencing February 1966 through July 1968.

To carry out Canada's obligations under the International Sanitary Conventions, the Department of National Health and Welfare maintains quarantine measures for ships and aircraft entering Canadian ports and provides accommodation and necessary medical care for persons arriving in Canada who require quarantine (see p. 301).

The Department is responsible for the enforcement of regulations governing the handling and shipping of shellfish under the International Shellfish Agreement between Canada and the United States and, at the request of the International Joint Commission, participates in studies connected with control of pollution of boundary waters between Canada and the United States as well as with problems caused by atmospheric pollution. Other international health responsibilities include the custody and distribution of biological, vitamin and hormone standards for WHO and certain duties in connection with the Single Convention on Narcotic Drugs, 1961, as well as Canada's representation on the Narcotic Commission of the United Nations.

Subsection 8.—Consultative and Technical Services and Special Programs

The extension of technical and consultative assistance to the provinces is a function of the Health Services Branch and the Health Insurance and Resources Branch of the Department of National Health and Welfare. The following services supply consultation and information, advise on health care projects, co-ordinate activities and planning, and exercise leadership in promoting high standards of service: Child and Maternal Health; Dental Health; Emergency Health; Epidemiology; Health Education; Laboratory of

Hygiene; Medical Rehabilitation; Mental Health; Nursing Services; Nutrition; Occupational Health; Radiation Protection; Public Health Engineering; Research Development; Health Grants; Health Resources; Hospital Insurance and Diagnostic Services; Health Facilities Design; Medical Care Insurance and Research and Statistics. In addition, the Information Services of the Department produces and distributes a variety of literature, films and radio programs to inform and educate the public on health subjects.

The Department also conducts a number of specialized services to preserve Health that are of national concern. These include: the Emergency Health Services which assist provincial and municipal governments to organize emergency medical, nursing, hospital and public health services; the Laboratory of Hygiene including the Virus Laboratory which serves as the National Typing and Reference Centre; and the Radiation Protection Division which is mainly responsible for safety measures to protect Canadian radiation workers (see p. 300). The Environmental Health Centre carries out advisory and research services in Occupational Health, Aerospace Medicine and Public Health Engineering, which deal with health problems of interprovincial and international traffic and water resources management.

Section 2.—Provincial and Local Health Services

Provincial governments are mainly responsible for the various health measures to preserve the health of individuals and communities. These are administered by the official and voluntary health agencies, hospitals and the teaching and research institutions in co-operation with the health professions. Health services fall into the broad categories of public health, hospital services and medical care programs; in addition to general programs, there are organized services for specific diseases and for the chronically ill and disabled generally.

Although the pattern of services is broadly similar, provincial health legislation, financing and administration vary to some degree. Most health functions are exercised by the provincial health departments but in some provinces certain programs, such as hospital insurance, medical care insurance, tuberculosis control, cancer control or alcoholism programs, may be administered by separate public agencies directly accountable to the Minister of Health. Voluntary organizations also provide specialized health services, often with some support from tax funds in the form of payment for services or support grants.

In general, the provincial health departments carry out over-all planning and direction of public health programs, administer certain specialized health programs, and assist through technical and financial aid the regional or county health units and city health departments that have been delegated responsibility for the basic public health services. In most provinces, the health unit systems, which serve mainly rural areas, are operated either provincially or jointly by the province with the local authority having jurisdiction over county, municipality or larger area, while city health departments are administered by municipal or metropolitan boards of health. Several provincial health departments also directly administer health services to northern unorganized territories. The nucleus staff of a local health unit or department usually is composed of a full-time medical officer of health, a number of public health nurses and a public health inspector.

Local official programs to safeguard community health are concerned with environmental sanitation to ensure safe water, milk and foods; prevention and control of infectious diseases; the improvement of maternal, child and school health; dental health; registration of vital statistics; and health education of the public. In addition, the larger city health departments have developed specialized services in such areas as mental health, home care, and rehabilitation of the chronically ill and handicapped. More recently, a few health units and departments have started health screening for chronic conditions and family planning clinics. The city health departments also participate to some degree with the provincial authorities in accident prevention and in the health aspects of measures to control air, water and soil pollution.

Provincial health departments support the local programs by health grants and the provision of technical consultant services. Most of the mental and tuberculosis hospitals and clinics are provincially operated, as are treatment services for the venereal diseases, cancer, alcoholism and other specific diseases, and the provincial laboratories that aid in diagnostic and control procedures. The provincial agencies are primarily responsible for the collection and analysis of vital statistics and the study of the epidemiological and related social and economic conditions that affect health conditions. They also give leadership in such fields as occupational health, nutrition, health education and pollution problems in collaboration with national health agencies. In order to maintain and improve health services, the provincial health departments recruit and train professional and technical personnel for the health fields and support public health research. Through agreement with the Federal Government, live oral poliovirus vaccine (Sabin) as well as Salk vaccine is made available by provincial health departments for immunization against poliomyelitis.

Maternal and Child Health.—All provincial health departments have established consultant services on maternal and child health; five provinces have separate divisions under medical direction, and nine have public health nursing divisions that work with the local health services in this field. The specialized divisions also undertake studies in maternal and child care, including hospital care, and assist in the training of nursing personnel.

Dental Health.—All provincial health departments have dental health divisions that administer varying programs directed mainly to the training of dentists and dental hygienists in public health, the operation of children's preventive and treatment clinics, and dental health education. In general, dental care is restricted to pre-school and the younger school age groups, although mobile dental clinics are extended to children living in remote areas where no dentist is available. Several provinces have set up, in conjunction with their dental schools, special courses for dental hygienists. A locally sponsored plan in which the cost of dental services for children is shared by the community and the provincial health department is in operation in more than 90 communities in British Columbia.

Nutrition.—Consultants in nutrition extend technical guidance and education to health and welfare agencies and hospitals, and diet counselling to selected patient groups; they also conduct nutritional surveys and other research.

Subsection 1.—Public Health Services

Environmental Health.—The control of factors in the environment that are harmful to health is an expanding area of public health. Much of the work in community sanitation involves inspection duties to maintain safe milk, water and food supplies and sanitary conditions in sewerage and waste disposal systems and in public areas such as campsites and swimming pools. Air pollution, water pollution, radiation exposure and the use of pesticides have become major environmental problems, necessitating the co-operative efforts of governments and other agencies in research and in planning effective control measures. Special water authorities in Ontario and Quebec have responsibility for all aspects of public water supply, sewerage systems and stream pollution, and in six other provinces special water agencies exercise similar functions jointly with the health departments.

Occupational Health.—Services designed to prevent accidents and occupational diseases and to maintain the health of employees are common to provincial health departments, labour departments, workmen's compensation boards and industrial management. Provincial agencies regulate working conditions and offer consultant and educational services to industry. All provinces have legislation (Factory Acts, Shop Acts, Mines

Acts, Workmen's Compensation Acts) setting health safety, standards for employment. Most provinces maintain environmental health laboratories that study industrial health problems such as the effects of noise and air conditions on workers.

Communicable Disease Control.—Five provincial health departments have separate divisions of communicable disease control headed by full-time epidemiologists; in the other provinces these functions are handled by other provincial medical consultants. Local health authorities undertake case-finding and diagnostic services in co-operation with public health laboratories, conduct epidemiological investigations and carry out control measures such as for tuberculosis and venereal disease. All provincial health departments organize immunization programs for the public against diphtheria, tetanus, poliomyelitis, whooping cough and smallpox and, in most provinces, against measles.

Health Education.—A basic concern of provincial health authorities is to stimulate public interest in important health needs, and most provincial health departments have a division or unit of health education directed by a full-time professional "health educator". This division makes available a variety of health education materials and other divisions of the health department, to local health authorities and to voluntary associations. Many educational activities are directed to reducing habits harmful to health, such as cigarette smoking and the excessive use of alcohol and other drugs.

Public Health Laboratories.—All provinces maintain a central public health laboratory and usually a number of branch laboratories to assist local health agencies and the medical profession in the protection of community health and the control of infectious diseases. Public health bacteriology (testing of milk, water and food), diagnostic bacteriology and pathology are the principal functions of the laboratory service, with medical testing for physicians and hospitals steadily increasing in volume. Efforts to co-ordinate public health and hospital laboratory services and measures to bring laboratory facilities to rural areas are among the recent developments.

Subsection 2.—Services for Specific Diseases or Disabilities

Mental Health.—Treatment programs for the mentally ill have centred mainly around three types of facilities: the mental hospital, the psychiatric unit in the general hospital, and the organized community mental health clinic. However, these are becoming increasingly less separate and distinct in their functioning as the mental health movement concerns itself with wider community involvement in the psycho-social problem of mental illness. Treatment is being made more accessible with the continuing expansion of psychiatric services within general hospitals and the opening of several psychiatric hospitals for short-term in-patient therapy, day care, emergencies, and out-patient services. The development of social centres and sheltered workshops to aid the mental patient following his discharge to the community owes much to the volunteer efforts of the Canadian Mental Health Association and the response of individual residents. Mental hospitals continue to emphasize programs of recreational and industrial therapy to activate patients for discharge.

Special centres for the assessment and diagnostic evaluation of mentally retarded and emotionally disturbed children are also being developed. Day-training schools or classes for the trainable retarded, sponsored by local associations of parent groups forming the Canadian Association for Retarded Children, are organized throughout the land and research programs designed to afford better understanding and management of mental retardation problems are being developed and expanded in all provinces.

Most large public mental hospitals care for many types of mental illness. In recent years the status of many long-term chronically ill patients has been under review to determine their need for continued stay. As a result, it has been possible to resettle many patients, who no longer need the services of mental hospitals, in foster or boarding homes

in the community. In Ontario, for example, more than 2,000 mental hospital patients requiring sheltered care have been placed in approved homes for special care and another 1,500, chiefly ambulatory, in approved boarding homes. In Saskatchewan the patient population in the mental hospitals has been reduced by at least 1,000 under a similar program of community placement.

Since 1961, six provinces—Nova Scotia, Ontario, Saskatchewan, Alberta, Manitoba and British Columbia—have replaced their statutes governing the admission and care of the mentally ill with new legislation designed to promote easier and more informal methods of admission and discharge and to establish machinery for periodic review of the status of medically certified patients.

A great part of the cost of care in hospitals for the mentally ill and mentally retarded is borne by the provincial governments, although a charge, according to ability to contribute, may be made in some provinces. Newfoundland and Saskatchewan provide complete free care; Manitoba covers minimum maintenance costs for all patients; in Nova Scotia the provincial hospital gives free care to patients requiring active treatment; and in Ontario all mental-institution treatment is included in the hospital care insurance plan.

Tuberculosis.—The fight against tuberculosis is one of the major programs of all health departments. Free hospitalization and free drug treatment, both on an in-patient and domiciliary basis, are provided. In two provinces extensive BCG programs are in effect and in the other provinces this prophylactic is provided to groups at special risk. Case-finding programs in the form of community tuberculin and X-ray surveys, surveys of high-risk groups, and the follow-up of all arrested tuberculosis cases are routine. These activities resulted in a steady decline in the Canadian tuberculosis death rate to 3.6 per 100,000 population in 1965. Treatment in hospital for tuberculosis patients has also greatly declined with the success of out-patient chemotherapy.

Cancer.—Health departments and lay and professional groups working for the control of cancer have been concerned mainly with four aspects of the problem—diagnosis, treatment, research and public education. In cancer detection and treatment, specialized medicine, hospital services and an expanding public health program are closely related. There are programs operating under health departments in three provinces; four others have provincially supported cancer agencies or commissions; and in the remaining provinces hospital-administered tumour clinics receive provincial support. Under the provincial hospital insurance plans, the benefits pertaining to in-patient care in the treatment of cancer are essentially similar in all provinces and include such special services as diagnostic radiology, laboratory tests and radiotherapy. Similar services for out-patients are covered either by hospital insurance or by federal-provincial cancer control grants. Comprehensive free medical programs for cancer patients are in operation in Saskatchewan and Alberta and for cancer in-patients in New Brunswick.

Venereal Disease.—Free diagnostic and treatment services are available in all provinces but the operation of government clinics is being increasingly superseded by the method of supplying free drugs to private physicians who are reimbursed for treatment of indigents on a fee-for-service basis.

Alcoholism.—Within the past two decades provincially supported programs of varying scope have come into being to prevent and control alcoholism. Some are administered directly by the health departments; others are the responsibility of official or semi-official alcoholism foundations. The first organized and most complete program is that of the Ontario Alcoholism and Drug Addiction Research Foundation whose sphere of activity includes public and professional education, basic and clinical research and the operation of treatment facilities for in-patients and out-patients. Treatment facilities for alcoholic prisoners are being developed by reform institutions in three provinces. Also, the rehabilitation program of various voluntary and religious organizations continues to assist large numbers of alcoholics.

Other Diseases or Disabilities.—Services for persons with chronic disabilities, such as heart disease, arthritis, diabetes, visual and auditory impairments and paraplegia have been developed largely by voluntary agencies assisted by federal and provincial funds. (See pp. 310-311.)

Subsection 3.—Public Medical Care Insurance and Programs

Provincial Medical Care Plans.—Traditionally, patients have paid directly for personal health care services. For the services of physicians, especially, prepaid insurance has been replacing direct payment. Thus, at the end of 1965 about 12,000,000 Canadians or 61 p.c. of the population had some voluntary insurance protection against the cost of physicians' services.

Government financing of personal health care has been increasing in two directions concurrently. First, for the indigent, most provincial governments have assured payments to physicians and several, as well, to dentists, pharmacists for prescribed drugs, optometrists and others. Such programs have operated in several provinces for many years and the remaining provinces have recently made similar provisions. Under the Canada Assistance Plan, the cost of the services can be shared by the Government of Canada. Secondly, for the general population, some provincial governments have introduced programs intended to ensure, if necessary by using tax revenue, that all residents can have physicians' services insurance. In Saskatchewan, coverage is compulsory and no other agency is permitted to compete in the service area covered by the public plan. In British Columbia since 1965 and in Ontario since 1966, public agencies administer optional programs available to individual applicants. In Alberta in 1963 the government established minimum benefits and maximum premiums for existing voluntary insurance plans. In 1967 this arrangement was superseded by a plan similar to those in British Columbia and Ontario. The British Columbia and Alberta schemes cover a comprehensive range of physicians' services and also make provision for paramedical and other health-care benefits to be included as part of the basic contract or as options at a somewhat higher premium cost. As of mid-1967, the publicly administered plans in British Columbia, Alberta and Ontario offered individual contracts only. Private voluntary agencies continued to offer group contracts.

In Newfoundland, the population in the Cottage Hospital Districts (i.e., isolated outlying areas) may enrol in a salaried medical service scheme. (Additionally, all children under 16 years of age throughout the province are covered under the Children's Health Service, at no direct charge to their families, for physicians' services in hospital.)

All these plans except the Children's Health Service in Newfoundland use premiums. To ensure that the premium burden upon individuals is not too heavy, Saskatchewan and Newfoundland cover about three quarters of the total cost from general tax revenues. In Ontario, Alberta and British Columbia premiums of the needy, as defined by a simple test of income adequacy, are subsidized from general tax revenues. British Columbia also uses a special taxation-supported fund to help stabilize premium levels.

Saskatchewan.—Only Saskatchewan has a universal-coverage medical care program. This program, introduced in July 1962, requires enrolment of the entire eligible population. The premiums are compulsory. The maximum for a family is \$24 per year. These premiums cover approximately 25 p.c. of the costs of the program. Among the medical services covered are home, office and hospital visits, surgery, obstetrics, psychiatric care, anaesthesia, laboratory and radiological services, preventive medicine, and certain services provided by dentists. There are no waiting periods for benefits and no exclusions for reasons of age or pre-existing health conditions.

Physicians may elect to receive payment in a number of ways. First, the physician may receive payment of 85 p.c. of the tariffs in the current schedule of fees of the organized

profession, directly from the public administering authority, and accept this payment as payment in full. Secondly, patients and physicians may enrol voluntarily with an "approved health agency" that serves as intermediary, with respect to payment, between the public authority and the physicians; here also, the physician receives 85 p.c. of the tariff as payment in full. Thirdly, a physician may elect to submit his bill directly to the patient who pays him and seeks reimbursement for 85 p.c. of the approved amount from the public authority; the physician may bill the patient directly for amounts over and above what the public authority has paid. Fourthly, patient and physician may, if they agree, settle their accounts privately without involving any public authority or approved health agency.

Alberta.—The Alberta Medical Plan introduced in October 1963 provided for public regulation of approved voluntary plans with regard to minimum benefits and maximum premiums and was primarily designed to help residents having poor health or low income to purchase voluntary medical care insurance from approved non-profit and commercial agencies. It was required that the benefits provided be comprehensive and that there could be no exclusions because of age, pre-existing health conditions, or a previous record of high utilization. The plan was financed from personal premiums alone. The government contributed, as a subsidy, 80 p.c. of the premium for persons with no taxable income, 50 p.c. for persons with annual taxable incomes from \$1 to \$500, and 25 p.c. for those with taxable incomes from \$501 to \$1,000. On July 1, 1966, this plan was supplemented, for an additional premium, by other benefits including prescribed drugs, optometry, physiotherapy, ambulance service, osteopathy, chiropractic, podiatry, naturopathy and certain medical supplies and appliances. A deductible amount, co-insurance charges, and limited liability on some services applied to the extended plan.

On July 1, 1967, these plans were superseded by the Alberta Health Plan, to be operated by the Department of Health for all residents voluntarily seeking individual and family enrolment. The new plan is divided into two parts—Basic Health Services and Optional Health Services, the latter being subdivided into Options A, B and C. The Basic Plan covers all services of physicians with payment of 100 p.c. of the tariff, special dental surgery, limited optometric services, and podiatric and osteopathic services up to \$100 annually. Option A offers as additional benefits certain services not insured under the provincial hospital plan, including hospital admission charge, daily co-insurance charge in a standard ward (limited to 180 days a year in a chronic hospital), differential charge for a semi-private room, certain hospital out-patient charges, and ambulance benefits up to \$100 a year. Option B covers 80 p.c. of the cost of prescribed drugs and prosthetic appliances; the subscriber pays 20 p.c. Purchase and repair of artificial limbs, eyes and braces, prescribed by a physician, are also covered up to \$300 a year. Option C offers chiropractic and naturopathic services up to \$100 a year.

Premium rates for the Basic Plan are \$60 a year for single-person families, \$120 for families of two persons and \$160 for families of three or more. Each Option costs an additional \$12, \$24 and \$36 a year, respectively. For individuals or families with little or no taxable income, premiums for both the Basic Plan and the Options may be reduced by means of subsidies from the province.

British Columbia.—The British Columbia medical plan took effect in September 1965. As of mid-1967 it was administered by an agency directed by representatives of government and the medical profession. The benefits provided were comprehensive and included most physicians' services as well as limited physiotherapy, special nursing, chiropractic and naturopathy. For eligible residents, the government offered subsidies totalling 90 p.c. of the premium for persons with no taxable income and 50 p.c. of the premium for persons with taxable income from \$1 to \$1,000. A medical grant stabilization fund was established, initially of \$2,000,000, to cover possible deficits.

Ontario.—The Ontario medical services insurance plan began paying benefits in July 1966. The plan offered to all eligible Ontario residents, on an individual and family enrolment basis, an insurance plan that covered most physicians' services.

The government pays, as a subsidy, the full premium of applicants who had had no taxable income during the preceding year, and of those who were recipients of public assistance; 50 p.c. of the premium for single applicants who had a taxable income of \$500 or less; 50 p.c. of the premium for families of two persons and with a taxable income of \$1,000 or less; and 60 p.c. of the premium for families of three or more persons and with a taxable income of \$1,300 or less.

Health Care Programs for Welfare Recipients under the Canada Assistance Plan.—For several years Nova Scotia, Ontario, Manitoba, Alberta and British Columbia have financed most of the cost of providing certain personal health care services under programs for welfare recipients in specified categories. In Newfoundland the basis of eligibility was certification by area welfare officers of the need for specific services. During the past three or four years the trend has been to eliminate categorical status (age, disability, blindness, unemployment) as the basis of eligibility and to shift the emphasis toward tests of need applied to specific individuals and families who find themselves unable to pay for services or to purchase insurance. Such tests take into account the available income of an applicant and his or her minimum living requirements.

Enactment of the federal Canada Assistance Plan in 1966 resulted in the expansion of many existing provincial programs and in the introduction of legislation in other provinces so that, in the development of their programs, they would benefit from the cost-sharing provisions of the Plan (retroactively effective to Apr. 1, 1966). By mid-1967 programs involving payment to physicians and, frequently as well, to dentists, pharmacists, optometrists and others were in operation in all provinces.

The range of physicians' services covered in the benefits is usually comprehensive and includes medical visits in the home, office and hospital, and surgery, diagnostic services and obstetrical care. There are virtually no restrictions as regards medically required care and no limitations arising from pre-existing conditions or extra charges imposed on patients at time of receiving medical service. Other benefits that may be available include appliances, physiotherapy, special duty nursing, chiropody, medically required transportation, eye glasses and other aids, chiropractic, and home nursing. Typically, where these are benefits, restrictions related to misuse or overuse are imposed through such devices as waiting periods, prior authorizations, or co-charges.

Subsection 4.—Services for the Disabled and Chronically Ill

The success of rehabilitation programs for injured workers, veterans, handicapped children and other disability groups has encouraged more recent efforts to extend such services to all handicapped persons. Physical medicine and rehabilitation departments have been established in teaching hospitals and in most veterans' and children's hospitals. There are some 40 children's hospitals and rehabilitation centres located in the main cities across Canada and children are also treated at general hospitals and at 17 rehabilitation centres that serve both adults and children. Four rehabilitation centres are operated under workmen's compensation programs. Services for veterans are dealt with at pp. 350-351.

Hospital services available to in-patients and out-patients include physical medicine, physiotherapy, occupational therapy, social services and, in most children's and teaching hospitals, speech therapy; in addition, children's hospitals and centres operate special education classes. The rehabilitation centres provide comprehensive medical, psychosocial

and vocational services to more severely disabled persons. Provincial and community agencies, such as those providing rehabilitation and home care services, co-operate in the rehabilitation of disabled children and adults.

Most large general hospitals operate special out-patient clinics for disabilities including arthritis and rheumatism, diabetes, glaucoma, speech and hearing defects, heart diseases and orthopaedic and neurological conditions. Voluntary agencies concerned with specific disability groups such as arthritics, the blind, the deaf, children suffering from cystic fibrosis, haemophilia or muscular dystrophy, the mentally ill or retarded, or disabled persons generally, are also broadening their rehabilitation services; these include counselling, personal aids and appliances, transportation, employment and education, and sheltered workshops, as well as participation in the provision of services for the home-bound. Home care programs, under either hospital or community sponsorship, are established in the principal cities and in several rural counties. They provide nursing, home-maker, physiotherapy and other services to the disabled, the chronically ill, the aged, and the convalescent in their own homes. Several provincial health departments provide home nursing services to residents of outlying districts.

Provincial health, welfare and education departments and voluntary agencies are developing specialized services for physically and mentally handicapped children. Most provinces have registries of handicapped children, of varying coverage, and these are being found increasingly useful in the planning and co-ordination of rehabilitation services. In addition to medical rehabilitation, health departments and the crippled children's societies provide family counselling, recreation, transportation and foster home care; travelling clinics extend periodic diagnostic and treatment services to outlying areas. Special schools or classes for various groups of handicapped children are operated by local school boards in the main cities but most of the 15 residential schools for the deaf and the six for the blind are operated under provincial auspices.

Regional prosthetic research and training units established in rehabilitation centres in Montreal, Toronto and Winnipeg, and the Bio-Engineering Institute of the University of New Brunswick, supported by National Health Grants, are significant developments. The transfer of prosthetic services for veterans from the Department of Veterans Affairs to the Department of National Health and Welfare on Jan. 1, 1966, has made it possible for the provinces to extend these services to non-veterans. Artificial limbs and prosthetic appliances are available in 12 Prosthetic Centres across Canada in accordance with provisions determined by provincial health departments. A federal-provincial program assists in the extraordinary rehabilitation, maintenance and counselling costs on behalf of children with thalidomide-induced defects.

Ten university schools offer training in physical therapy and/or occupational therapy and three provide training in audiology and speech therapy. In the year ended Mar. 31, 1967, of the \$40,407,080 made available through the General Health Grants to assist the provinces in their rehabilitation programs, \$2,885,550 was specifically allocated to the Medical Rehabilitation and Crippled Children Grant. These grants are used to develop medical rehabilitation personnel (through grants to the university schools and student bursaries) and for equipment and research.

Section 3.—Hospital and Other Health Statistics

Statistical information on the health of Canadians is limited to the well established and highly standardized mortality, communicable disease and institutional statistics series, all of which have been available for a long period, and the recently established series covering operations under the federal-provincial hospital insurance program (pp. 296-298). Much statistical information is also available from provincial and other health sources.

Statistics on causes of death are given in the Chapter on Vital Statistics, pp. 269-272; those on hospital statistics in Subsection 1 following; those on notifiable diseases in Subsection 2; and those relating to physicians and their earnings in Subsection 3.

Subsection 1.—Hospital Statistics*

Canadian hospitals, for statistical purposes, are classified according to (1) type of ownership, which can be public, private or federal, and (2) type of service provided, which can be general, allied special (chronic, convalescent, rehabilitation, maternity, communicable disease and orthopaedic), mental or tuberculosis. General hospitals, which account for by far the largest number of beds, are subdivided by size, based on rated bed capacity.

In 1966, six hospitals were added to the number operating in Canada, bringing the total to 1,439 and raising the total rated bed capacity by 2.2 p.c. to more than 210,400 (Table 5). The number of rated beds per 1,000 population was 10.6, up slightly from 10.5 in 1955. Over the past few years the proportion of rated beds accounted for by general and allied special hospitals has been rising and the proportions for mental and tuberculosis hospitals have been falling. In 1966, general hospitals accounted for 54.6 p.c. of the rated beds, or 5.8 beds per 1,000 population; this ratio ranged from 4.4 in Quebec to 7.0 in Saskatchewan (Table 6). Mental hospitals had 31.7 p.c. of the rated beds (3.3 per 1,000 population), allied special hospitals had 11.0 p.c. (1.2 per 1,000 population) and the remainder (2.7 p.c.) were located in tuberculosis sanatoria (0.3 beds per 1,000 population).

* Prepared in the Institutions Section of the Health and Welfare Division, Dominion Bureau of Statistics. Detailed information will be found in the following DBS publications: *Hospital Statistics*, Vols. I to VII (Catalogue Nos. 83-210 to 83-216); *Mental Health Statistics*, Vol. III (Catalogue No. 83-205); *Tuberculosis Statistics*, Vol. II (Catalogue No. 83-207); and *List of Canadian Hospitals and Related Institutions and Facilities* (Catalogue No. 83-201).

5.—Number and Bed Capacity of Operating Hospitals (Public, Private and Federal) Operating in Canada, 1962-66

Type	1962	1963	1964	1965	1966
HOSPITALS					
	No.	No.	No.	No.	No.
General.....	937	943	942	955	954
Allied special.....	313	307	327	328	333
Mental ¹	87	92	100	105	109
Tuberculosis ²	48	42	45	45	43
Totals.....	1,385	1,384	1,414	1,433	1,439
BEDS					
	No.	No.	No.	No.	No.
General.....	103,607	106,822	110,522	112,098	114,994
Allied special.....	19,454	21,184	20,802	21,901	23,090
Mental ¹	66,725	65,954	65,548	65,928	66,668
Tuberculosis ²	10,241	8,691	6,350	5,912	5,657
Totals.....	200,027	202,651	203,222	205,839	210,409

¹ Mental hospitals only; exclusive of psychiatric units in other hospitals.

² Tuberculosis hospitals only; exclusive of tuberculosis units in other hospitals.

6.—Number and Bed Capacity of Hospitals (Public, Private and Federal) Operating in Canada, by Province and Type, 1966

Province or Territory and Category	General and Allied Special								
	General			Allied Special			Totals, General and Allied Special		
	Hos- pitals	Beds	Beds per 1,000 Popu- lation ¹	Hos- pitals	Beds	Beds per 1,000 Popu- lation ¹	Hos- pitals	Beds	Beds per 1,000 Popu- lation ¹
Newfoundland—	No.	No.	No.	No.	No.	No.	No.	No.	No.
Public.....	33	2,652	5.3	14	193	0.4	47	2,845	5.6
Private.....	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—
Prince Edward Island—									
Public.....	8	692	6.3	1	30	0.3	9	722	6.6
Private.....	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—
Nova Scotia—									
Public.....	44	4,106	5.4	3	185	0.2	47	4,291	5.6
Private.....	1	5	—	—	—	—	1	5	—
Federal.....	2	610	0.8	—	—	—	2	610	0.8
New Brunswick—									
Public.....	37	3,576	5.7	3	184	0.3	40	3,760	6.0
Private.....	—	—	—	—	—	—	—	—	—
Federal.....	1	400	0.6	—	—	—	1	400	0.6
Quebec—									
Public.....	130	25,606	4.4	40	6,222	1.1	170	31,828	5.5
Private.....	32	1,039	0.2	56	2,292	0.4	88	3,331	0.6
Federal.....	2	1,025	0.2	7	1,130	0.2	9	2,155	0.4
Ontario—									
Public.....	182	37,632	5.4	40	5,399	0.8	222	43,031	6.2
Private.....	15	639	0.1	65	1,693	0.2	80	2,332	0.3
Federal.....	6	2,106	0.3	5	176	—	11	2,282	0.3
Manitoba—									
Public.....	78	5,181	5.4	4	924	1.0	82	6,105	6.4
Private.....	4	40	—	1	50	0.1	5	90	0.1
Federal.....	3	693	0.7	10	37	—	13	730	0.8
Saskatchewan—									
Public.....	145	6,666	7.0	8	637	0.7	153	7,303	7.7
Private.....	—	—	—	—	—	—	—	—	—
Federal.....	2	115	0.1	1	4	—	3	119	0.1
Alberta—									
Public.....	113	9,591	6.6	29	2,829	1.9	142	12,420	8.5
Private.....	—	—	—	—	—	—	—	—	—
Federal.....	7	1,049	0.7	5	89	0.1	12	1,138	0.8
British Columbia—									
Public.....	88	9,334	5.0	21	930	0.5	109	10,264	5.5
Private.....	3	45	—	—	—	—	3	45	—
Federal.....	4	1,655	0.9	—	—	—	4	1,655	0.9
Yukon and Northwest Territories—									
Public.....	10	276	6.7	—	—	—	10	276	6.7
Private.....	1	13	0.3	—	—	—	1	13	0.3
Federal.....	3	248	6.0	20	86	2.1	23	334	8.1
Canada—									
Public.....	868	105,312	5.3	163	17,533	0.9	1,031	122,845	6.2
Private.....	56	1,781	0.1	122	4,035	0.2	178	5,816	0.3
Federal.....	30	7,901	0.4	48	1,522	0.1	78	9,423	0.5

¹ Based on estimated population as at June 1, 1966.

6.—Number and Bed Capacity of Hospitals (Public, Private and Federal) Operating in Canada, by Province and Type, 1966—concluded

Province or Territory and Category	Mental ²			Tuberculosis ³			Totals, All Hospitals		
	Hos-pitals	Beds	Beds per 1,000 Popu-lation ¹	Hos-pitals	Beds	Beds per 1,000 Popu-lation ¹	Hos-pitals	Beds	Beds per 1,000 Popu-lation ¹
Newfoundland—	No.	No.	No.	No.	No.	No.	No.	No.	No.
Public.....	1	826	1.6	1	278	0.6	49	3,949	7.8
Private.....	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—
Prince Edward Island—									
Public.....	2	391	3.6	1	90	0.8	12	1,203	11.0
Private.....	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—
Nova Scotia—									
Public.....	9	2,765	3.7	2	460	0.6	58	7,516	9.9
Private.....	—	—	—	—	—	—	1	5	—
Federal.....	—	—	—	—	—	—	2	610	0.8
New Brunswick—									
Public.....	4	2,091	3.4	3	399	0.6	47	6,250	10.0
Private.....	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	1	400	0.6
Quebec—									
Public.....	28	18,170	3.2	14	1,711	0.3	212	51,709	9.0
Private.....	—	—	—	1	25	—	89	3,356	0.6
Federal.....	—	—	—	—	—	—	9	2,155	0.4
Ontario—									
Public.....	32	22,479	3.3	12	1,249	0.2	266	66,759	9.7
Private.....	8	616	0.1	—	—	—	88	2,948	0.4
Federal.....	—	—	—	—	—	—	11	2,282	0.3
Manitoba—									
Public.....	6	3,522	3.7	2	308	0.3	90	9,935	10.4
Private.....	—	—	—	—	—	—	5	90	0.1
Federal.....	—	—	—	—	—	—	13	730	0.8
Saskatchewan—									
Public.....	4	3,429	3.6	2	246	0.2	159	10,978	11.5
Private.....	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	3	119	0.1
Alberta—									
Public.....	8	5,847	4.0	2	562	0.4	152	18,829	12.9
Private.....	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	12	1,138	0.8
British Columbia—									
Public.....	6	6,459	3.5	2	179	0.1	117	16,902	9.1
Private.....	—	73	—	—	—	—	4	118	0.1
Federal.....	1	—	—	1	150	0.1	5	1,805	1.0
Yukon and Northwest Territories—									
Public.....	—	—	—	—	—	—	10	276	6.7
Private.....	—	—	—	—	—	—	1	13	0.3
Federal.....	—	—	—	—	—	—	23	334	8.1
Canada—									
Public.....	100	65,979	3.3	41	5,482	0.3	1,172	194,306	9.8
Private.....	9	689	—	1	25	—	188	6,530	0.3
Federal.....	—	—	—	1	150	—	79	9,573	0.5

¹ Based on estimated population as at June 1, 1966.

² Mental hospitals only; exclusive of psychiatric units in other hospitals.

³ Tuberculosis hospitals only; exclusive of tuberculosis units in other hospitals.

Although 1966 figures on number of hospitals in operation, their classification and their rated bed capacities (Tables 5 and 6) were available for 1966 at the time of preparation of this Subsection, 1965 data were the latest obtainable for Tables 7 to 13.

Total adult and child admissions to Canadian hospitals were in excess of 3,226,000 in 1965, up 1.5 p.c. from 1964 (Table 7). In both years there were 165 admissions per 1,000 population. Admissions to general hospitals numbered 3,053,517 or 156 per 1,000 population. On any given day of the year one could expect to find an average of 180,650 patients in Canadian hospitals as compared with an average daily patient load of 179,700 in 1964. General hospitals accounted for 49.9 p.c. of the 1965 average daily total and mental hospitals for an additional 37.5 p.c. Percentage occupancy varied with the type of hospital and was highest in public mental hospitals (102.8 p.c.) and lowest in public tuberculosis sanatoria (69.4 p.c.).

7.—Movement of Patients¹ and Patient-Days in Operating Public, Private and Federal Hospitals, 1964 and 1965

NOTE.—Figures include estimates for non-reporting hospitals.

Type of Service and Item	1964	1965	Type of Service and Item	1964	1965
PUBLIC HOSPITALS			PRIVATE HOSPITALS—concluded		
General—			Allied Special—		
Beds set up at Dec. 31.....	99,649	101,700	Beds set up at Dec. 31.....	3,600	3,895
Admissions.....	2,868,015	2,902,539	Admissions.....	16,802	16,906
Per 1,000 population ²	149.1	148.3	Per 1,000 population ²	0.9	0.9
Patient-days.....	29,241,414	29,812,073	Patient-days.....	1,217,457	1,259,070
Per 1,000 population ²	1,520.2	1,523.3	Per 1,000 population ²	63.3	64.3
Average daily number of patients.....	79,894.9	81,676.9	Average daily number of patients.....	3,326.4	3,449.5
Per 1,000 population ²	4.2	4.2	Per 1,000 population ²	0.2	0.2
Percentage occupancy ³	80.8	81.4	Percentage occupancy ³	91.4	90.5
Allied Special—			Mental—⁴		
Beds set up at Dec. 31.....	15,754	16,560	Beds set up at Dec. 31.....	706	712
Admissions.....	80,018	85,523	Admissions.....	3,747	4,509
Per 1,000 population ²	4.2	4.4	Per 1,000 population ²	0.2	0.2
Patient-days.....	4,754,277	5,113,818	Patient-days.....	246,895	252,731
Per 1,000 population ²	247.2	261.3	Per 1,000 population ²	12.8	12.9
Average daily number of patients.....	12,989.8	14,010.5	Average daily number of patients.....	672.4	692.4
Per 1,000 population ²	0.7	0.7	Per 1,000 population ²	--	--
Percentage occupancy ³	82.6	88.0	Percentage occupancy ³	106.1	102.0
Mental—⁴			FEDERAL HOSPITALS		
Beds set up at Dec. 31.....	71,027	69,708	General—		
Admissions.....	45,131	51,023	Beds set up at Dec. 31.....	9,517	9,329
Per 1,000 population ²	2.3	2.6	Admissions.....	82,441	84,287
Patient-days.....	25,059,761	24,489,579	Per 1,000 population ²	4.3	4.3
Per 1,000 population ²	1,302.8	1,251.3	Patient-days.....	2,565,428	2,518,519
Average daily number of patients.....	68,469.5	67,094.7	Per 1,000 population ²	133.4	128.7
Per 1,000 population ²	3.6	3.4	Average daily number of patients.....	7,009.4	6,900.1
Percentage occupancy ³	106.4	102.8	Per 1,000 population ²	0.4	0.4
Tuberculosis—⁵			Percentage occupancy ³	72.5	72.2
Beds set up at Dec. 31.....	5,977	5,490	Allied Special—		
Admissions.....	9,607	9,811	Beds set up at Dec. 31.....	1,470	1,463
Per 1,000 population ²	0.5	0.5	Admissions.....	2,962	2,851
Patient-days.....	1,588,211	1,405,103	Per 1,000 population ²	0.2	0.1
Per 1,000 population ²	82.6	71.8	Patient-days.....	421,160	416,046
Average daily number of patients.....	4,339.4	3,849.6	Per 1,000 population ²	21.9	21.3
Per 1,000 population ²	0.2	0.2	Average daily number of patients.....	1,150.7	1,139.9
Percentage occupancy ³	72.2	69.4	Per 1,000 population ²	0.1	0.1
PRIVATE HOSPITALS			Percentage occupancy ³	79.5	79.0
General—			Tuberculosis—⁵		
Beds set up at Dec. 31.....	2,038	1,938	Beds set up at Dec. 31.....	321	299
Admissions.....	69,614	66,711	Admissions.....	361	1,913
Per 1,000 population ²	3.6	3.4	Per 1,000 population ²	--	0.1
Patient-days.....	595,392	579,308	Patient-days.....	90,078	92,363
Per 1,000 population ²	31.0	29.6	Per 1,000 population ²	4.7	4.7
Average daily number of patients.....	1,626.8	1,587.1	Average daily number of patients.....	246.1	253.0
Per 1,000 population ²	0.1	0.1	Per 1,000 population ²	--	--
Percentage occupancy ³	80.3	82.8	Percentage occupancy ³	71.9	75.1

¹ Adults and children. ² Population estimates as at June 1. ³ Based on rated bed capacity. ⁴ Mental hospitals only; exclusive of psychiatric units in other hospitals. ⁵ Tuberculosis hospitals only; exclusive of tuberculosis units in other hospitals.

In 1965 the average length of stay of adults and children separated from public general and allied special hospitals was 11.6 days (11.5 days in 1964). Table 8 shows the variation in average length of stay by type of hospital and by region. The most striking feature of this table is that length of stay is much greater in chronic, convalescent and rehabilitation hospitals (139 days in 1965) than in other types of hospitals where average stay approximates 10 days. In public general hospitals length of stay increases with bed size because of the greater availability and utilization of more complex services in larger hospitals.

8.—Average Length of Stay of Adults and Children in Public General and Allied Special Hospitals, by Province, 1965

Type of Hospital	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
	days	days	days	days	days	days	days	days	days	days	days	days	days
General.....	11.3	9.8	10.6	10.0	10.4	11.0	9.3	9.5	8.8	9.7	5.9	8.9	10.3
1- 9 beds.....	—	—	8.4	6.7	9.4	—	10.2	8.1	7.0	—	—	—	8.2
10- 24 ".....	6.0	11.1	8.0	7.7	8.9	7.7	7.1	7.2	7.2	7.3	5.9	6.2	7.3
25- 49 ".....	7.6	7.0	8.7	7.1	8.1	9.1	7.4	7.7	6.8	7.4	—	9.7	7.7
50- 99 ".....	10.1	6.9	9.9	8.7	7.9	10.7	7.9	8.4	8.0	8.0	—	—	8.9
100-199 ".....	11.4	10.4	10.2	9.5	9.1	9.6	10.1	9.6	8.1	9.2	—	—	9.4
200-299 ".....	11.5	10.9	11.1	9.9	10.0	10.5	8.5	13.8	9.1	8.6	—	—	10.2
300-499 ".....	10.7	—	10.2	12.4	10.8	11.1	10.0	11.3	9.2	10.5	—	—	10.8
500-999 ".....	23.7	—	14.5	14.8	12.5	11.5	11.0	13.1	9.8	11.2	—	—	12.0
1,000 or more beds.	—	—	—	—	13.1	14.0	12.9	—	14.2	13.8	—	—	13.6
Allied Special—													
Chronic, conva-													
lescent and re-													
habilitation....	138.4	109.2	45.4	51.2	150.5	171.1	100.4	258.2	130.0	46.4	—	—	139.4
Other.....	5.8	—	6.5	16.1	11.3	9.7	—	2.6	6.4	6.1	—	—	9.3
All Public Hospitals.....	11.7	10.3	10.6	10.3	11.9	12.6	11.0	10.2	10.9	9.9	5.9	8.9	11.6

Total full-time personnel in Canadian hospitals increased by 5.7 p.c. from 259,900 in 1964 to 274,650 in 1965. As shown in Table 9, there were 186.5 full-time personnel per 100 rated beds in public general hospitals, 58.7 in mental hospitals and 83.0 in tuberculosis sanatoria.

9.—Full-Time Personnel Employed in Operating Public, Private and Federal Hospitals, by Province, 1965

NOTE.—Figures include estimates for non-reporting hospitals.

Province or Territory	General		General and Allied Special		Mental ¹		Tuberculosis ²	
	Number	Per 100 Rated Beds	Number	Per 100 Rated Beds	Number	Per 100 Rated Beds	Number	Per 100 Rated Beds
Newfoundland.....	4,323	181.9	4,485	170.7	621	75.2	210	75.5
Prince Edward Island.....	1,000	144.5	1,043	144.5	240	61.4	84	93.3
Nova Scotia.....	8,314	171.1	8,628	171.1	1,684	56.8	448	130.2
New Brunswick.....	7,380	196.2	7,594	192.5	1,330	65.7	358	88.2
Quebec.....	61,764	225.1	71,002	196.6	10,802	59.5	1,252	70.1
Ontario.....	73,558	186.8	80,749	173.3	14,147	62.7	1,166	76.7
Manitoba.....	9,996	171.1	11,375	165.6	1,677	48.0	222	94.5
Saskatchewan.....	10,976	162.5	11,328	154.3	1,871	54.6	325	104.2
Alberta.....	14,669	157.5	16,820	142.9	2,935	50.2	458	80.1
British Columbia.....	16,571	151.1	17,489	149.1	3,409	54.7	383	102.7
Yukon Territory.....	147	100.7	153	95.6	—	—	—	—
Northwest Territories.....	305	77.7	358	78.6	—	—	—	—
Canada.....	209,003	186.5	231,024	173.2	38,716	58.7	4,906	83.0

¹ Mental hospitals only; exclusive of psychiatric units in other hospitals.

² Tuberculosis hospitals only; exclusive of tuberculosis units in other hospitals.

The total income of all public hospitals in 1965 was \$1,290,000,000, an increase of 12.4 p.c. over 1964. Table 10 shows that approximately 90 p.c. of this revenue was derived from net in-patient earnings in most types of hospitals. Total expenditure also rose by 12.4 p.c. from 1964 to \$1,342,500,000 in 1965. Gross salaries and wages accounted for between 60 p.c. and 70 p.c. of total expenditures of all types of hospitals. Table 11 shows that gross salaries and wages made up a smaller proportion of total expenditures in public general hospitals in the Atlantic Provinces than in the Central or Western Provinces in 1965.

The cost per patient-day of care in public general hospitals rose by 9.8 p.c. from \$31.00 in 1964 to \$34.05 in 1965. Table 12 shows how cost per patient-day increased with bed size in public general hospitals from \$23.43 in the 1-9 bed size to \$40.97 in hospitals with 1,000 or more beds. Provincially, cost per patient-day in public general hospitals ranged from \$24.40 in Prince Edward Island to \$41.06 in Quebec, as shown in Table 13.

10.—Revenues and Expenditures of Operating Public Hospitals, by Type, 1965

NOTE.—Figures include estimates for non-reporting hospitals.

Type of Hospital	Operating Hospitals	Revenues				Expenditures				
		Net In-patient Earnings	Net Out-patient Earnings	Grants and Other Income	Total	Gross Salaries and Wages	Medical and Surgical Supplies	Drugs	Other	Total
	No.	p.c.	p.c.	p.c.	\$'000	p.c.	p.c.	p.c.	p.c.	\$'000
General.....	852	88.5	5.4	6.1	972,970	64.8	3.2	3.9	28.1	1,017,655
1- 9 beds....	36	84.0	8.8	7.2	2,041	64.7	2.7	3.7	28.9	2,128
10- 24 ".....	203	88.3	5.8	5.9	20,379	59.5	2.7	4.8	33.0	21,838
25- 49 ".....	192	89.8	5.4	4.8	41,963	59.9	2.6	4.3	33.2	44,152
50- 99 ".....	144	91.0	4.7	4.3	71,892	63.7	2.6	4.1	29.6	74,762
100-199 ".....	130	90.0	5.2	4.8	155,488	64.8	3.0	3.9	28.3	162,950
200-299 ".....	58	88.6	5.3	6.1	128,288	63.8	3.1	3.9	29.2	135,451
300-499 ".....	51	87.9	5.9	6.2	196,096	65.8	3.2	3.8	27.2	203,675
500-999 ".....	30	87.6	5.4	7.0	236,506	65.2	3.5	4.0	27.3	247,849
1,000 or more beds	8	87.5	4.8	7.7	120,317	66.6	3.6	3.8	26.0	124,850
Allied Special—										
Chronic, convalescent and rehabilitation.....	103	92.7	1.4	5.9	70,436	68.9	1.3	2.3	27.5	73,526
Other.....	56	83.9	4.0	12.1	20,696	66.6	2.2	2.4	28.8	22,019
Mental.....	96	75.7	0.3	24.0	200,670	69.9	0.9	2.5	26.7	202,982
Tuberculosis.....	42	89.2	1.9	8.9	25,244	66.1	1.0	2.1	30.8	26,307

11.—Revenues and Expenditures of Operating Public General Hospitals, by Province, 1965

NOTE.—Figures include estimates for non-reporting hospitals.

Province or Territory	Operating Hospitals	Total Revenue	Expenditures				
			Gross Salaries and Wages	Medical and Surgical Supplies	Drugs	Other	Total
	No.	\$'000	p.c.	p.c.	p.c.	p.c.	\$'000
Newfoundland.....	32	18,667	52.6	3.4	5.4	28.6	20,420
Prince Edward Island.....	8	3,970	57.1	3.1	4.2	35.6	4,090
Nova Scotia.....	44	35,084	56.4	3.0	3.9	36.7	35,750
New Brunswick.....	35	31,512	57.9	3.5	4.0	34.6	31,731
Quebec.....	131	280,482	66.8	3.2	4.0	26.0	306,520
Ontario.....	178	361,199	65.2	3.2	3.9	27.7	367,235
Manitoba.....	77	43,285	65.0	3.4	4.6	27.0	43,261
Saskatchewan.....	145	52,564	64.5	3.0	3.8	28.7	54,877
Alberta.....	106	65,466	62.7	3.0	3.8	30.5	68,939
British Columbia.....	86	79,876	67.0	3.3	3.7	26.0	83,540
Yukon Territory.....	2	129	60.3	3.9	2.3	33.0	147
Northwest Territories.....	8	936	54.4	1.5	2.3	41.8	1,145

12.—Patient-Day¹ Revenue and Expenditure Ratios of Operating Public Hospitals, 1965

Type of Hospital	Operating Hospitals	Revenues		Expenditures			
		Net In-patient Earnings	Total	Gross Salaries and Wages	Medical and Surgical Supplies	Drugs	Total
	No.	\$	\$	\$	\$	\$	\$
General.....	852	28.84	32.57	22.06	1.10	1.35	34.05
1- 9 beds.....	36	18.83	22.43	15.16	0.65	0.87	23.43
10- 24 ".....	203	19.70	22.31	14.07	0.64	1.13	23.64
25- 49 ".....	152	20.78	23.18	14.61	0.62	1.06	24.37
50- 99 ".....	144	22.85	25.12	16.63	0.70	1.06	26.11
100-199 ".....	130	26.76	29.75	20.19	0.94	1.24	31.18
200-299 ".....	58	28.09	31.64	21.30	1.05	1.31	33.37
300-499 ".....	51	30.40	34.56	23.63	1.16	1.35	35.90
500-999 ".....	30	33.36	38.08	26.02	1.40	1.61	39.91
1,000 or more beds.....	8	34.56	39.48	27.26	1.49	1.59	40.97
Allied Special—							
Chronic, convalescent and re-							
habilitation.....	103	14.26	15.37	11.05	0.21	0.38	15.99
Other.....	56	34.62	41.31	29.22	1.01	1.11	43.90
Mental.....	96	6.24	8.23	5.83	0.07	0.21	8.33
Tuberculosis.....	42	16.02	17.97	12.38	0.19	0.38	18.72

¹ Excludes newborn.13.—Patient-Day¹ Revenue and Expenditure Ratios of Operating Public Hospitals, by Province, 1965

Province and Type of Hospital	Revenue		Expenditures			
	Net In-patient Earnings	Total	Gross Salaries and Wages	Medical and Surgical Supplies	Drugs	Total
	\$	\$	\$	\$	\$	\$
Newfoundland—						
General.....	23.23	27.06	15.38	1.00	1.58	29.19
Allied Special—						
Chronic, convalescent and rehabilitation.....	8.71	10.76	7.63	0.12	0.13	10.61
Mental.....	15.11	15.97	9.38	0.25	0.54	15.97
Tuberculosis.....						
Prince Edward Island—						
General.....	18.90	23.68	13.93	0.78	1.02	24.40
Allied Special—						
Chronic, convalescent and rehabilitation.....	18.01	23.50	15.64	0.96	0.31	25.00
Mental.....	0.86	8.40	5.39	0.05	0.40	8.40
Tuberculosis.....	24.36	26.07	16.88	0.25	0.66	26.07
Nova Scotia—						
General.....	26.96	31.14	17.90	0.56	1.23	31.73
Allied Special—						
Chronic, convalescent and rehabilitation.....	22.21	29.72	17.95	0.89	0.62	30.32
Other.....	42.73	47.63	28.25	1.28	1.14	49.14
Mental.....	3.25	7.79	5.08	0.13	0.07	7.83
Tuberculosis.....	24.79	26.33	17.54	0.55	2	26.33
New Brunswick—						
General.....	24.86	30.26	17.63	1.07	1.25	30.47
Allied Special—						
Chronic, convalescent and rehabilitation.....	19.19	20.18	13.00	0.39	0.71	20.43
Other.....	19.72	23.91	15.00	0.52	0.38	24.10
Mental.....	0.84	7.66	5.23	0.06	0.18	7.66
Tuberculosis.....	17.44	19.99	12.88	0.10	0.32	19.99
Quebec—						
General.....	32.80	37.58	27.43	1.31	1.67	41.06
Allied Special—						
Chronic, convalescent and rehabilitation.....	12.89	13.96	10.48	0.21	0.46	14.92
Other.....	33.50	36.53	28.36	0.79	1.06	39.47
Mental.....	7.16	7.49	5.20	0.03	0.28	7.81
Tuberculosis.....	12.28	13.59	9.86	0.13	0.56	15.23

¹ Excludes newborn.² Included with medical and surgical supplies.

**13.—Patient-Day¹ Revenue and Expenditure Ratios of Operating Public Hospitals,
by Province, 1965—concluded**

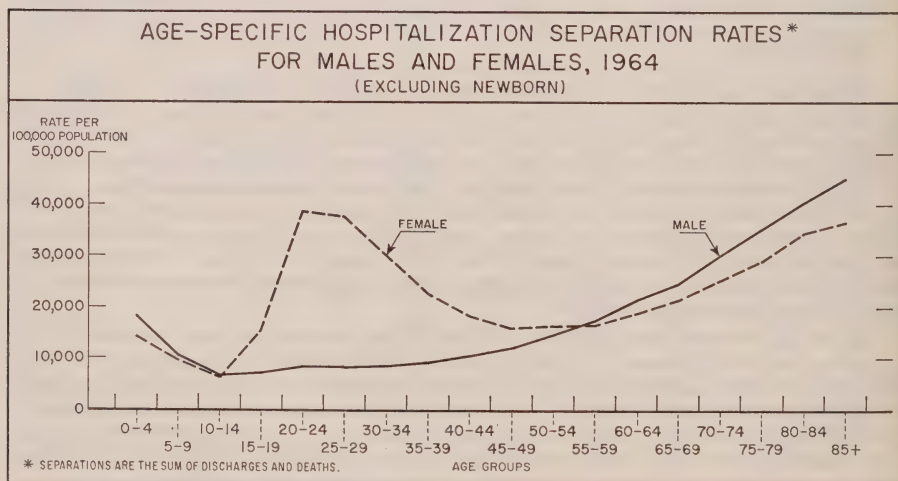
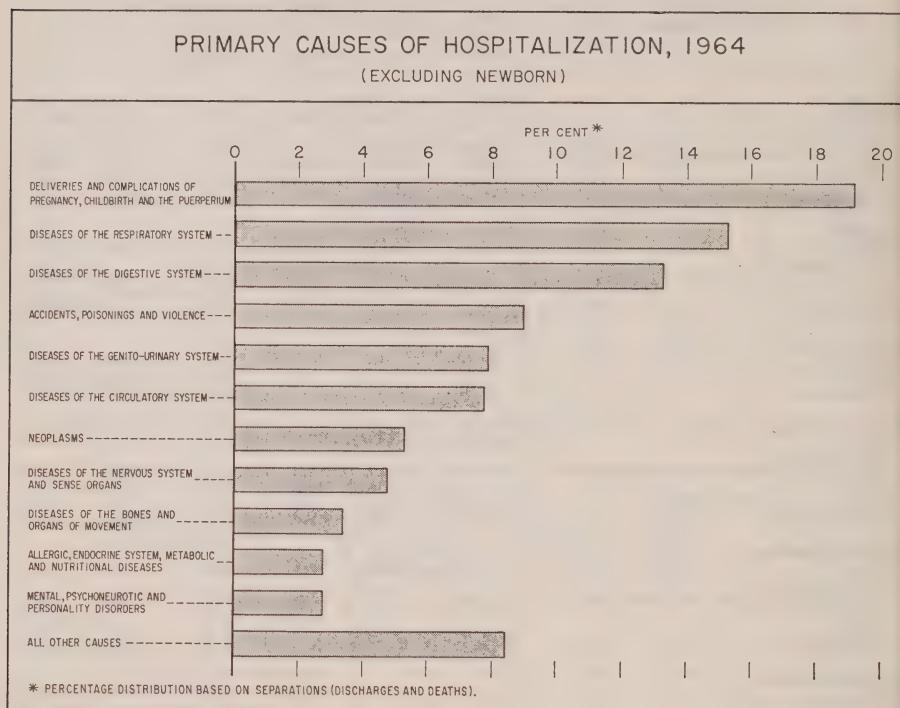
Province and Type of Hospital	Revenue		Expenditures			
	Net In-patient Earnings	Total	Gross Salaries and Wages	Medical and Surgical Supplies	Drugs	Total
	\$	\$	\$	\$	\$	\$
Ontario—						
General.....	30.09	33.69	22.34	1.11	1.32	34.25
Allied Special—						
Chronic, convalescent and rehabilitation.....	15.50	16.16	11.51	0.20	0.34	16.36
Other.....	44.24	65.62	40.50	1.62	1.78	68.58
Mental.....	8.50	8.85	6.56	0.12	0.16	8.84
Tuberculosis.....	16.25	19.56	13.46	0.17	0.22	20.31
Manitoba—						
General.....	26.90	29.57	19.22	1.01	1.35	29.55
Allied Special—						
Chronic, convalescent and rehabilitation.....	18.18	20.15	14.18	0.28	0.57	20.09
Other.....	2.84	7.28	5.24	0.09	0.27	7.26
Tuberculosis.....	12.87	14.37	8.35	0.15	0.20	14.46
Saskatchewan—						
General.....	23.69	26.49	17.81	0.84	1.06	27.65
Mental.....	0.37	8.85	6.61	0.05	0.18	8.85
Tuberculosis.....	17.48	18.59	13.19	0.14	0.26	18.61
Alberta—						
General.....	25.06	27.88	18.41	0.91	1.11	29.36
Allied Special—						
Chronic, convalescent and rehabilitation.....	12.24	13.20	8.87	0.18	0.26	14.18
Other.....	24.22	25.71	19.30	0.98	0.71	28.10
Mental.....	1.12	7.76	5.42	0.03	0.18	7.76
Tuberculosis.....	23.09	26.56	18.61	0.17	0.55	26.56
British Columbia—						
General.....	25.70	28.28	19.87	0.98	1.10	29.66
Allied Special—						
Chronic, convalescent and rehabilitation.....	14.04	18.77	15.48	0.17	0.25	21.24
Other.....	31.29	31.67	24.60	1.01	0.98	33.09
Mental.....	8.76	8.91	5.81	0.08	0.24	8.92
Tuberculosis.....	20.76	21.41	16.12	0.49	0.35	21.41
Yukon Territory—						
General.....	38.09	45.21	31.20	2.02	1.43	51.73
Northwest Territories—						
General.....	19.00	22.87	15.05	0.42	0.65	27.68

¹ Excludes newborn.

Hospital Morbidity.—A growing need for additional information on illness in Canada is being met in part by a new statistical program involving separations (discharges and deaths) from the general and allied special hospitals in Canada. The program provides data on primary diagnosis, days of care, length of illness, and age composition for all hospital patients except those in mental hospitals and tuberculosis sanatoria. (Age, sex and diagnostic information on persons treated in mental hospitals and in tuberculosis sanatoria has been available at the national level for many years but no similar information has been available for persons treated in the other kinds of hospitals.) About 100 out of every 1,000 persons are hospitalized during a year and, of these, 96 or 97 are treated in general and allied special hospitals.

It should be noted that the picture of morbidity provided by these statistics is not, of course, the whole picture. A total morbidity picture would include not only the morbidity covered by in-patient hospital care but also out-patient morbidity, morbidity covered by treatment outside the hospitals, and morbidity for which no treatment is received. Nevertheless, the illnesses that receive hospital care are, in general, more serious and more important than the illnesses that do not receive hospital care and this, together with the fact that the diagnostic quality of hospital morbidity statistics is very high,

makes hospital morbidity statistics a most important source of information. Tables 14 and 15 present adult and child patients (excluding newborn) in terms of 17 diagnostic categories (Canadian) which consolidate the much more detailed International Classification of Diseases.



14.—Hospital Separations, Separations and Days per 100,000 Population, and Average Days Stay, by Diagnostic Category, 1964

(Excluding newborn and data for the Yukon and Northwest Territories)

Diagnostic Category ¹	Separations	Separations per 100,000 Population	Days per 100,000 Population	Average Days Stay
	No.	No.	No.	No.
Infective and Parasitic Diseases.....	43,478	227	3,310	14.6
Neoplasms.....	164,750	859	16,533	19.3
Allergic, Endocrine System, Metabolic and Nutritional Diseases.....	88,432	450	7,361	16.3
Diseases of the Blood and Blood-Forming Organs.....	17,300	90	1,365	15.1
Mental, Psychoneurotic and Personality Disorders.....	85,660	446	8,224	18.4
Diseases of the Nervous System and Sense Organs.....	147,139	767	21,271	27.7
Diseases of the Circulatory System.....	241,674	1,260	28,154	22.4
Diseases of the Respiratory System.....	471,116	2,456	16,102	6.6
Diseases of the Digestive System.....	411,359	2,144	22,237	10.4
Diseases of the Genito-Urinary System.....	244,185	1,273	12,500	9.8
Deliveries and Complications of Pregnancy, Childbirth and the Puerperium.....	592,547	3,088	17,655	5.7
Diseases of the Skin and Cellular Tissue.....	62,395	325	3,212	9.9
Diseases of the Bones and Organs of Movement.....	105,869	552	11,046	20.0
Congenital Malformations.....	29,612	154	2,345	15.2
Certain Diseases of Early Infancy.....	9,973	52	679	13.1
Symptoms, Senility and Ill-Defined Conditions.....	71,655	373	3,128	8.4
Accidents, Poisonings and Violence (nature of injury).....	277,379	1,446	16,751	11.6
Supplementary Classifications for Special Admissions, Live-births.....	20,557	107	2,031	19.0
All Causes.....	3,083,080	16,069	193,904	12.1

¹ Major groupings of the *International Classification of Diseases*, 1955 revision. Information on the detailed categories included in these main groupings is available in DBS publication *Hospital Morbidity* (Catalogue No. 82-206).

15.—Hospital Separations per 100,000 Population, by Diagnostic Category and Age Group, 1964

(Excluding newborn and data for the Yukon and Northwest Territories)

Diagnostic Category ¹	Age Group					Total
	Under 15	15-24	25-44	45-64	65+	
Infective and Parasitic Diseases.....	361	205	139	130	194	227
Neoplasms.....	124	370	897	1,660	3,109	859
Allergic, Endocrine System, Metabolic and Nutritional Diseases.....	239	235	347	786	1,388	450
Diseases of the Blood and Blood-Forming Organs.....	89	44	55	93	304	90
Mental, Psychoneurotic and Personality Disorders.....	71	398	740	769	479	446
Diseases of the Nervous System and Sense Organs.....	651	300	418	916	3,052	767
Diseases of the Circulatory System.....	202	223	802	2,509	6,668	1,260
Diseases of the Respiratory System.....	4,858	1,348	903	1,121	2,409	2,456
Diseases of the Digestive System.....	1,495	1,623	2,099	3,000	4,032	2,144
Diseases of the Genito-Urinary System.....	452	1,019	1,836	1,779	2,357	1,273
Deliveries and Complications of Pregnancy, Childbirth and the Puerperium.....	5	7,987	7,182	63	—	3,088
Diseases of the Skin and Cellular Tissue.....	373	338	248	305	384	325
Diseases of the Bones and Organs of Movement.....	171	323	642	1,053	1,233	552
Congenital Malformations.....	320	113	68	52	33	154
Certain Diseases of Early Infancy.....	154	1	—	—	—	52
Symptoms, Senility and Ill-Defined Conditions.....	333	312	344	429	645	373
Accidents, Poisonings and Violence (nature of injury).....	1,212	1,748	1,340	1,423	2,264	1,446
Supplementary Classifications for Special Admissions, Livebirths.....	51	86	98	146	340	107
All Causes.....	11,160	16,671	18,158	16,322	28,902	16,069

¹ See footnote to Table 14.

Subsection 2.—Notifiable Diseases*

Three categories on the notifiable list established by the Dominion Council of Health continued to predominate in 1966—venereal diseases (23,455 cases), scarlet fever and streptococcal sore throat (20,022 cases), and infectious and serum hepatitis (5,835 cases).

The rate of venereal disease notifications, which had risen from 97.3 per 100,000 population in 1959 to 121.6 in 1964, dropped to 117.6 in 1965 and to 117.2 in 1966. Infectious and serum hepatitis have declined consistently over a number of years to a rate of 29.2 per 100,000 population as compared to 33.7 in the previous year. Scarlet fever and streptococcal sore throat, on the other hand, are continuing an upward trend, increasing to 100.0 per 100,000 population from 69.4 in 1965 and 55.1 in 1964. There were varying decreases in incidence rates in 1966 over 1965 of epidemic diarrhoea of the newborn, diphtheria, dysentery, infectious encephalitis, food poisoning, viral or aseptic meningitis, pemphigus neonatorum and tuberculosis as compared to the slight increases from 1964 to 1965. Incidence rates of brucellosis and typhoid and paratyphoid fever decreased from 1965 to 1966, but rates for meningococcal infections and pertussis increased.

* Prepared in the Public Health Section, Health and Welfare Division, Dominion Bureau of Statistics.

**16.—Reported Cases of Selected Notifiable Diseases and Rates per 100,000
Population, 1963-66**

Inter- national List No.	Disease	Cases				Rates per 100,000 Population			
		1963	1964	1965	1966	1963	1964	1965	1966
		No.	No.	No.	No.				
044	Brucellosis (undulant fever)...	57	54	38	21	0.3	0.3	0.2	0.1
764	Diarrhoea of the newborn, epidemic.....	98	114	128	140	0.9	1.0	1.1	0.7
055	Diphtheria.....	75	25	51	37	0.4	0.1	0.3	0.2
045, 046, 048	Dysentery ¹	4,166	3,891	4,017	3,422	22.0	20.2	20.5	17.1
046	Amoebic.....	20	50	51	47	0.1	0.3	0.3	0.2
045	Bacillary.....	1,448	1,346	1,827	1,914	7.7	7.0	9.3	9.6
082.0	Encephalitis, infectious.....	58	5	91	4	0.5	*	0.5	*
049.0, 042.1, 049.2	Food poisoning.....	1,116	1,582	1,728	1,728	9.0	12.5	13.5	8.6
092, N968.5	Hepatitis, infectious (including serum hepatitis).....	10,080	8,218	6,601	5,835	53.3	42.7	33.7	29.2
080.2, 082.1	Meningitis, viral or aseptic....	298	163	313	136	1.6	1.3	2.5	0.7
057	Meningococcal infections.....	111	115	88	85	0.6	0.6	0.4	0.5
766	Pemphigus neonatorum (im- petigo of the newborn).....	3	11	39	10	*	0.1	0.3	*
056	Pertussis (whooping cough)...	6,134	4,844	2,472	4,549	32.5	25.2	12.6	22.7
080.0, 080.1	Poliomyelitis, paralytic.....	122	19	3	3	0.6	0.1	*	*
050, 051	Scarlet fever and streptococcal sore throat.....	9,592	10,605	13,591	20,022	52.5	55.1	69.4	100.0
001-019	Tuberculosis.....	5,705	4,541	4,803	4,517	30.2	23.6	24.5	22.6
040, 041	Typhoid and paratyphoid fever	147	195	158	127	0.8	1.0	0.8	0.6
	Venereal diseases ¹	22,199	23,401	23,016	23,455	117.5	121.6	117.6	117.2
030-034	Gonorrhoea.....	19,411	20,628	20,453	21,479	102.7	107.2	104.5	107.3
020-021.3, 023, 024, 026-029	Syphilis.....	2,786	2,771	2,560	1,970	14.7	14.4	13.1	9.3

¹ Includes other cases and cases where type not specified.

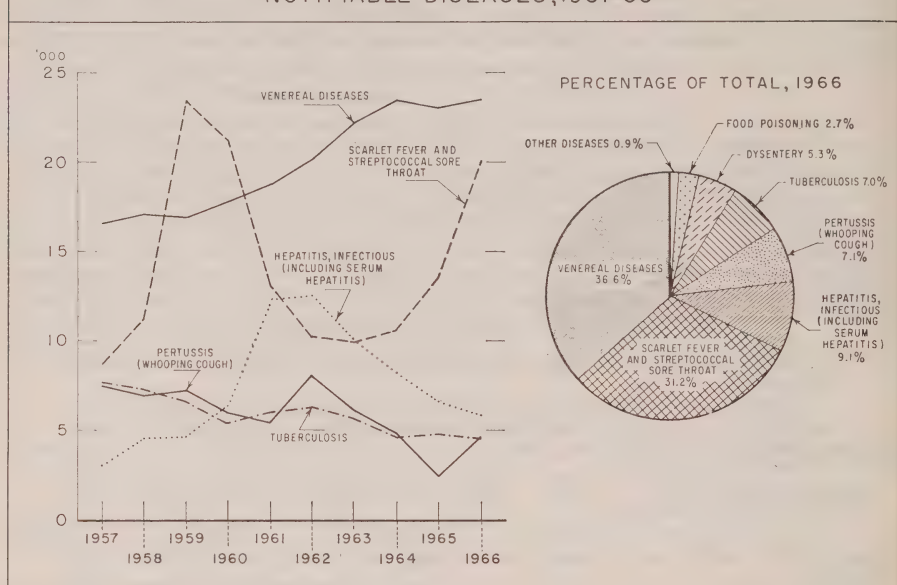
* 0.05 per 100,000 population or less.

17.—Reported Cases of Selected Notifiable Diseases and Rates per 100,000 Population, by Province, 1966

Inter- national List No.	Disease	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
NUMBER OF CASES													
044	Brucellosis (undulant fever).....	—	—	—	—	17	1	2	—	1	—	—	—
764	Diarrhoea of the newborn, epidemic.....	—	—	101	—	—	1	3	1	4	31	—	1
055	Diphtheria.....	—	—	—	—	21	12	2	2	—	—	—	—
045, 046, 048	Dysentery ²	200	9	1,043	217	170	629	111	158	303	570	—	12
046	Amoebic.....	—	—	3	—	—	3	40	—	—	—	—	—
045	Bacillary.....	200	1	3	217	170	626	67	118	300	203	—	9
082.0	Encephalitis, infectious...	—	1	—	1	—	1	—	2	—	—	—	—
049.0, 042.1, 049.2	Food poisoning.....	6	2	21	150	752	1	125	99	207	358	—	8
092, N998.5	Hepatitis, infectious (in- cluding serum hepatitis)	223	305	288	142	504	2,246	346	358	561	844	—	18
080.2, 082.1	Meningitis, viral or aseptic	—	3	13	5	2	—	22	25	19	31	—	16
057	Meningococcal infections..	12	4	1	4	—	29	5	6	10	11	—	3
766	Pemphigus neonatorum (impetigo of the new- born).....	—	1	4	—	—	1	6	—	—	—	—	—
056	Pertussis (whooping cough)	84	532	38	22	1,216	1,998	45	39	252	311	—	12
080.0, 080.1	Polioimyelitis, paralytic..	—	—	—	—	—	—	3	—	—	—	—	—
050, 051	Scarlet fever and strepto- coccal sore throat.....	581	3,614	1,339	11	4,066	5,262	185	1,118	1,710	1,784	126	196
001-019	Tuberculosis.....	315	28	217	153	1,318	1,151	215	235	299	465	7	114
040, 041	Typhoid and paratyphoid fever.....	5	—	9	8	44	41	2	10	4	4	—	—
030-034	Veneral diseases.....	533	25	488	370	2,577	3,940	2,899	2,355	3,655	5,613	315	685
020-021.3, 023, 024, 026-029	Gonorrhoea.....	580	22	415	354	2,158	3,225	2,707	2,253	3,447	5,391	313	674
036-038	Syphilis.....	13	3	73	16	419	712	192	99	208	222	2	11
	Other.....	—	—	—	—	—	3	—	3	—	—	—	—
RATES PER 100 000 POPULATION													
044	Brucellosis (undulant fever).....	—	—	—	—	0.3	3	0.2	—	0.1	—	—	—
764	Diarrhoea of the newborn, epidemic.....	—	—	13.4	—	—	1	0.3	1	0.3	1.7	—	3.5
055	Diphtheria.....	—	—	—	—	—	0.3	1.2	0.2	0.1	—	—	—
045, 046, 048	Dysentery ²	40.5	8.3	138.0	35.2	2.9	9.0	11.5	16.5	20.7	30.4	—	41.8
046	Amoebic.....	—	—	0.4	—	—	3	—	4.2	0.1	—	—	—
045	Bacillary.....	40.5	0.9	0.4	55.2	2.9	9.0	7.0	12.4	20.5	10.8	—	31.3
082.0	Encephalitis, infectious...	—	1	—	0.2	—	1	—	0.2	0.1	—	—	—
049.0, 042.1, 049.2	Food poisoning.....	1.2	1.8	2.8	24.3	13.0	1	13.0	10.4	14.1	19.1	—	27.8
092, N998.5	Hepatitis, infectious (in- cluding serum hepatitis)	45.2	281.0	38.1	23.0	8.7	32.3	35.9	37.5	38.3	45.0	—	62.6
080.2, 082.1	Meningitis, viral or aseptic	—	2.8	1.7	0.8	3	1	2.3	2.6	1.3	1.7	—	55.7
057	Meningococcal infections..	2.4	3.7	0.1	0.6	0.1	0.4	0.5	0.6	0.7	0.6	—	10.4
766	Pemphigus neonatorum (impetigo of the new- born).....	—	1	0.5	—	—	1	0.6	—	—	—	—	—
056	Pertussis (whooping cough)	17.0	490.2	5.0	3.6	21.0	28.7	4.7	4.1	17.2	16.6	—	41.8
080.0, 080.1	Polioimyelitis, paralytic..	—	—	—	—	—	—	0.3	—	—	—	—	—
050, 051	Scarlet fever and strepto- coccal sore throat.....	117.8	3,329.8	177.1	1.8	70.9	75.6	19.2	117.0	116.9	95.2	876.1	682.0
001-019	Tuberculosis.....	63.8	25.8	28.7	24.8	22.8	16.5	22.3	24.6	20.4	24.8	48.7	396.7
040, 041	Typhoid and paratyphoid fever.....	1.0	—	1.2	1.3	0.8	0.6	0.2	1.0	0.3	0.2	—	—
030-034	Veneral diseases.....	108.0	23.0	64.5	60.0	44.6	56.6	301.0	246.5	249.8	99.6	2,190.2	2,383.6
020-021.3, 023, 024, 026-029	Gonorrhoea.....	105.4	20.3	64.9	57.4	37.3	46.3	281.1	235.8	255.6	287.7	2,176.3	2,345.3
036-038	Syphilis.....	2.6	2.8	9.7	2.6	7.2	10.2	19.9	10.4	14.2	11.8	13.9	38.3
	Other.....	—	—	—	—	—	3	—	0.3	—	—	—	—

¹ Not reportable.
population.² Includes other cases where type not specified.³ Less than 0.05 per 100,000

TRENDS IN THE INCIDENCE OF MAJOR NOTIFIABLE DISEASES, 1957-66



Subsection 3.—Numbers of Physicians and Earnings of Those in Private Practice

There were an estimated 23,700 active civilian physicians in Canada (exclusive of those in the Yukon and Northwest Territories) at Dec. 31, 1965, or one physician for every 833 persons of the population. Table 18 gives the provincial distribution and population/physician ratios as estimated for 1965, and shows also the historical trends for Canada since 1901. British Columbia continues to have the most favourable provincial ratio of physicians to population, followed by Ontario and Quebec.

18.—Active Civilian Physicians and Population per Physician, 1901-65, and by Province, 1965 (Exclusive of the Yukon and Northwest Territories)

Year	Active Civilian Physicians		Province	Active Civilian Physicians	
	Number	Population per Physician		Number	Population per Physician
Census Data—					
1901.....	5,475	972	Newfoundland.....	315	1,590
1911.....	7,411	970	Prince Edward Island.....	90	1,200
1921.....	8,706	1,008	Nova Scotia.....	875	867
1931.....	10,020	1,034	New Brunswick.....	530	1,181
1941.....	10,723	1,072	Quebec.....	6,965	820
Register of Physicians— ¹			Ontario.....	8,815	775
1951.....	14,163	989	Manitoba.....	1,100	872
1954.....	15,651	977	Saskatchewan.....	990	963
1959.....	19,300	906	Alberta.....	1,570	927
1962.....	21,011	881	British Columbia.....	2,450	750
1965.....	23,700	833	All Provinces.....	23,700	833

¹ Department of National Health and Welfare register.

Earnings.—More than 98 p.c. of the earnings of privately practising physicians and surgeons in Canada were obtained from fees charged for individual items of professional service. As Table 19 shows, average gross earnings in 1965 from fees plus wages and salaries earned incidental to fee practice were \$32,799. This figure was 7 p.c. higher than in 1964 and 48 p.c. above the 1958 figure. The highest average gross earnings in 1965 were reported in Saskatchewan at \$37,474; in Ontario and Alberta they were above the national average. Average gross incomes in the remaining provinces ranged downward from \$32,037 in Manitoba to \$25,596 in Prince Edward Island. Generally, throughout the seven-year period 1959-65, highest average gross earnings have been most consistently reported in Ontario and the westernmost provinces.

The net returns to doctors, after deduction of the expenses of professional fee practice, reveal similar geographic patterns, as seen in Table 19. Net earnings for Canada as a whole averaged \$22,064 in 1965. The figure was 7.7 p.c. higher than in 1964 and 51 p.c. above the 1959 figure. The highest provincial average net income was reported by Ontario doctors at \$24,188 followed by Saskatchewan doctors at \$23,530. The lowest average net income was reported in Prince Edward Island.

19.—Average Gross and Net Professional Incomes of Physicians and Surgeons, by Province, 1959-65

Province or Territory	1959 ¹	1960 ¹	1961 ¹	1962 ¹	1963 ¹	1964 ¹	1965
GROSS PROFESSIONAL INCOMES¹							
	\$	\$	\$	\$	\$	\$	\$
Newfoundland ²	24,669	28,583	27,184	24,809	27,903	30,630	31,620
Prince Edward Island.....	18,854	20,177	20,001	19,676	23,413	23,157	25,596
Nova Scotia.....	21,341	22,802	23,242	23,302	23,455	25,739	27,486
New Brunswick.....	18,918	22,523	24,220	23,978	26,376	27,802	29,622
Quebec.....	18,721	19,656	22,118	23,418	25,748	26,813	29,010
Ontario.....	24,153	25,534	27,206	27,779	30,641	33,201	35,752
Manitoba ³	27,567	25,767	29,072	29,003	28,769	29,103	32,037
Saskatchewan.....	29,699	27,102	27,103	23,238	35,657	36,484	37,474
Alberta.....	25,254	28,032	29,221	31,187	30,912	32,690	35,397
British Columbia.....	26,628	28,066	27,867	27,498	27,670	30,510	31,975
Yukon and Northwest Territories ⁴ ...	19,915	19,398	20,083	20,081	22,007	16,495	27,812
Average for Canada.....	22,910	24,288	25,862	26,322	28,690	30,566	32,799
NET PROFESSIONAL INCOMES⁵							
	\$	\$	\$	\$	\$	\$	\$
Newfoundland ⁴	16,776	19,902	18,640	18,042	19,455	21,523	23,028
Prince Edward Island.....	11,427	12,589	13,119	15,448	15,777	16,478	17,835
Nova Scotia.....	14,820	16,074	16,070	15,925	15,839	17,851	19,146
New Brunswick.....	12,372	15,535	16,288	16,418	17,701	19,255	20,251
Quebec.....	11,795	12,870	14,454	15,173	16,696	18,534	20,532
Ontario.....	15,605	16,754	17,682	18,306	20,492	22,247	24,188
Manitoba ³	15,442	16,000	15,829	16,742	18,178	18,720	19,681
Saskatchewan.....	15,096	15,955	15,843	14,619	21,625	23,879	23,530
Alberta.....	15,941	17,754	17,925	18,612	19,111	21,117	22,681
British Columbia.....	16,953	17,600	17,067	17,284	17,464	19,560	20,121
Yukon and Northwest Territories ⁴ ...	16,271	14,908	15,594	16,368	16,480	13,601	15,731
Average for Canada.....	14,590	15,735	16,472	16,970	18,688	20,484	22,064

¹ Includes incidental wages and salaries.

² Excludes physicians employed on a salaried basis under the Cottage Hospital Medical Service and by subsidized voluntary prepayment plans. The estimated number of such excluded physicians in 1965 was 95.

³ Excludes some physicians employed on a salaried basis in private group-practice. The estimated number of such excluded physicians in 1965 was 57.

⁴ Data for the Yukon and Northwest Territories are posted for record only.

⁵ Includes net professional fees after deducting expenses of practice, and wages and salaries incidental to fee practice.

PART II.—PUBLIC WELFARE AND SOCIAL SECURITY

Responsibility for social welfare is shared by all levels of government. Comprehensive income-maintenance measures such as the Canada Pension Plan, old age security pensions, family allowances, youth allowances and unemployment insurance, where nation-wide co-ordination is required, are administered federally. The Federal Government gives substantial aid to the provinces in meeting the costs of public assistance and also provides services for special groups such as veterans, Indians, Eskimos and immigrants. The Department of National Health and Welfare is generally responsible for federal welfare matters although the Departments of Veterans Affairs, Indian Affairs and Northern Development, and Manpower and Immigration operate programs for specific groups.

Administration of welfare services is primarily the responsibility of the provinces but the provision of services is often assumed by local authorities, generally with financial aid from the province.

Co-ordination in welfare matters between different levels of government and between government and voluntary authorities is facilitated by the National Council of Welfare, an advisory body to the Minister of National Health and Welfare. The Council consists of the federal Deputy Minister of Welfare who acts as chairman, the provincial deputy ministers of welfare, and ten other persons appointed for three-year terms by the Governor in Council.

Section 1.—Federal Government Programs

Subsection 1.—Canada Pension Plan

The Act establishing the Canada Pension Plan received Royal Assent on Apr. 3, 1965 and was proclaimed in force on May 5 of the same year. The collection of contributions commenced in January 1966, and in January 1967 the first benefits were paid in the form of Retirement Pensions. The Plan represents an important milestone in Canadian social development. It will enable millions of people to make financial provision for their retirement and to protect themselves and their dependants or survivors against loss of income in the event of the disability or death of the head of the family.

The Plan is universally applicable throughout Canada, except in the Province of Quebec where a comparable pension plan has been established. The Canada and Quebec Pension Plans, however, are closely co-ordinated and operate virtually as a single program. Together, they cover almost all members of the labour force in Canada. Benefit credits accrued under the Canada or Quebec Plans are portable throughout Canada. A contributor who may have worked for more than one employer during his lifetime or who may be self-employed for all or part of his working life will accumulate pension credits regardless of where he may work in Canada. In addition, benefits under the Plan are payable to beneficiaries whether or not they live in Canada. Every contributor to the Plan must have a Social Insurance Number so that his pensionable earnings may be accurately recorded for benefit purposes.

To participate in the Plan, a person must be between the ages of 18 and 70 and earn more than \$600 yearly as an employee, or at least \$800 if he is self-employed. As of 1967, contributions are made on earnings between \$600 and \$5,000 a year by both employees and self-employed persons. Employees contribute at the rate of 1.8 p.c. and a matching contribution is made by their employers; self-employed persons contribute at the rate of 3.6 p.c. No contributions are to be made by persons while they are receiving disability pensions. Although contributions are not paid on the first \$600 of annual earnings, that amount is nevertheless included in the calculation of benefits. Benefits are classified under three main headings: Retirement Pensions; Disability Pensions for contributors, with additional benefits for their dependent children; and Survivors' Benefits, consisting of a widow's pension, a disabled widower's pension, orphans' benefits, and a lump sum death benefit.

In 1967, Retirement Pensions became payable to contributors who were 68 years of age or over provided that, if under age 70, they were retired from regular employment. Each year the minimum pensionable age is being reduced one year until, commencing in 1970, Retirement Pensions will be payable to contributors who have retired from regular employment at the age of 65. In the case of contributors who have reached 70 years of age, Retirement Pensions are payable regardless of whether they are retired. They become payable at their full rates beginning in January 1976. These rates amount to 25 p.c. of what the up-dated pensionable earnings of contributors have averaged since Jan. 1, 1966, or from age 18, whichever comes later.

Contributors who become eligible for Retirement Pensions prior to 1976 receive reduced amounts. In the calculation of retirement pensions that commence during this period, pensionable earnings are averaged over ten years or 120 months. The only exception to this rule is where a Disability Pension has been paid, in which case the time during which that pension was in pay is deducted from the ten years, and the remaining period is then used for averaging purposes. In the calculation of Retirement Pensions that commence after 1975, provision is made to assist the contributor who may have had periods of low or no earnings during his contributory period. This is accomplished by dropping out the number of months during which contributions may have been made after age 65, and either by using the pensionable earnings in those months in place of earlier periods of lesser or no earnings, or by dropping such pensionable earnings out of the calculation if they are less favourable to him. Also dropped out of the calculation are up to 15 p.c. of the number of months he could have contributed before age 65 and the earnings in an equal number of months, although the drop-out must not reduce the number of months for averaging purposes to less than 120.

A person under 70 years of age who is in receipt of a Retirement Pension must meet an earnings test. In 1967, the maximum annual remuneration from employment which he may earn without affecting the amount of his pension is \$900. Should his yearly earnings exceed this figure, his pension is reduced as follows: when employment earnings are between \$900 and \$1,500, the reduction in pension will equal 50 p.c. of the amount over \$900, or an amount of up to \$300 per year; if earnings exceed \$1,500, the amount to be deducted will be \$300, plus the actual amount that is earned over \$1,500. However, the amount of his pension is not subject to reduction for any month in which the pensioner does not earn over \$75. At age 70, a contributor is entitled to receive the full amount of his Retirement Pension regardless of the amount of his earnings.

Disability Pensions become payable in May 1970. A contributor is considered to be disabled if he has a physical or mental disability that is so severe and likely to continue so long that he cannot engage in steady work. Disability Pensions, plus benefits for the dependent children of disabled contributors, will be available provided contributions have been made to the Plan for the required minimum period, namely, for five years if a Disability Pension is to commence before 1976. The amount of the Disability Pension consists of a flat-rate payment calculated by multiplying \$25* by the ratio that the Pension Index for the year in which the pension commences bears to the Pension Index for the year 1967, plus 75 p.c. of what the contributor's monthly Retirement Pension would have been had he reached age 65 when his Disability Pension commenced. Benefits payable on behalf of a disabled contributor's dependent children consist of an amount equal to the flat-rate payment, mentioned above, for each of the first four children and one half of that amount for each additional child. Benefits are payable until the child reaches age 18, or up to the age of 25 years if he continues to attend school or university full time.

Survivors' Benefits become payable in February 1968. They will be paid to or on behalf of the survivors of a deceased contributor who has made contributions for the minimum qualifying period, namely, three years for benefits commencing before 1975.

A woman who is widowed between ages 45 and 65 is entitled to a Widow's Pension consisting of the flat-rate payment (previously mentioned) plus 37½ p.c. of her husband's

* Subject to adjustment (see p. 328, para 4).

Retirement Pension. Should her husband not be in receipt of a Retirement Pension at the time of his death, such a pension is calculated in prescribed manner for the purposes of computing the amount of the Widow's Pension. If a woman is widowed under age 45, the same pension is paid provided she has dependent or disabled children or is herself disabled. If she does not meet any of these requirements, her pension is reduced by an amount equal to 1/120 for each month she is less than age 45 at the time of her husband's death. Accordingly, if a woman is widowed at age 35 or less, and has no dependent or disabled children and is not herself disabled, she will not receive a Widow's Pension until she reaches 65 years of age, unless she becomes disabled in the meantime.

A widow age 65 or over receives a Widow's Pension equal to 60 p.c. of her husband's Retirement Pension. This is true for a widow regardless of her age at the time her husband died or whether she was receiving a Widow's Pension before she became 65. Again, if her husband was not in receipt of a Retirement Pension at the time of his death, one is calculated in prescribed manner in order to compute the amount of the Widow's Pension. Women who receive Widows' Pensions may also have contributed to the Canada Pension Plan themselves and consequently may be entitled to Retirement or Disability Pensions in their own right. In such cases, the Widow's Pension will be combined with the other pension, in accordance with a prescribed formula, but the combined total cannot exceed the maximum Retirement Pension payable under the Act.

Orphans' Benefits are payable on behalf of a deceased contributor's dependent children. The rates are the same as the benefits for the children of a disabled contributor. A Disabled Widower's Pension is payable where a widower is disabled and is wholly or substantially dependent on his wife for financial support at the time of her death. The test of disability is the same as that for a person who claims a Disability Pension and the pension formula is the same as that for a disabled widow. When a contributor dies, a lump sum Death Benefit equal to six times his monthly Retirement Pension will be paid to his estate. This benefit is subject to a maximum of 10 p.c. of the maximum on pensionable earnings which, in 1967, would mean a payment not exceeding \$500. Should a contributor not be in receipt of a Retirement Pension at the time of his death, a calculation is made in prescribed manner for purposes of establishing the amount of the Death Benefit.

The Plan provides for the periodic adjustment of a number of its basic components. The maximum on pensionable earnings for 1966 and 1967 was set at \$5,000 a year. Until 1976, this maximum is to be adjusted in line with changes in the Pension Index which, in turn, is based on the Consumer Price Index. Beginning in 1976, the maximum on pensionable earnings will be adjusted in accordance with changes in the Earnings Index which will reflect changes in average wage and salary levels in Canada. The flat-rate components of Disability, Widows' and Disabled Widowers' Pensions, as well as the flat-rate benefits payable to the dependent children of disabled or deceased contributors, are also subject to adjustment by the Pension Index before going into pay. After benefits become payable, the amounts will be subject to periodic up-dating in accordance with increases in the Pension Index.

Any contributor or beneficiary under the Plan has the right to appeal decisions with which he is dissatisfied. Appeals by employees and employers regarding coverage and contributions are first made to the Minister of National Revenue and, if the individual is not satisfied with the Minister's decision, he may then appeal to the Pension Appeals Board whose decision is final. For self-employed persons, appeals with reference to the assessment of their earnings for Canada Pension Plan purposes are treated in the same way as appeals under the Income Tax Act. With respect to benefits, there is a three-stage appeal procedure: first, to the Minister of National Health and Welfare; secondly, to a Review Committee; and thirdly, to the Pension Appeals Board whose decision is final.

The legislation provides for the investment of the funds that accrue from monthly contributions, less the estimated amounts required to pay benefits and administrative costs over a three-month period. These funds are made available to each province on the basis of the relationship between the contributions made to the Plan by and on behalf of

residents of that province and the total contributions made to the Plan. Funds not borrowed by the provinces are invested in federal securities. All benefits and all costs incurred in the administration of the program are financed solely from the contributions made by employees, employers and self-employed persons and the interest earned from the investment of funds. In other words, the Canada Pension Plan is entirely self-supporting.

Provision has been made for the establishment of an Advisory Committee representing employers, employees, self-employed persons and the public. This Committee is to review, from time to time, the over-all operations of the Plan, the state of the Investment Fund, and the adequacy of coverage and benefits. The reports of the Committee are to be made to the Minister of National Health and Welfare and are to be included in the Annual Reports on the Plan. Authority is also provided for the purpose of entering into arrangements with other countries to achieve as full coverage of persons in the labour force in Canada as is possible and to ensure the portability of pension credits between Canada and the countries concerned.

Subsection 2.—Old Age Security and Guaranteed Income Supplement

Old Age Security.—Under the Old Age Security Act of 1951, as amended, the Federal Government pays a monthly pension to all persons who meet the necessary residence and age qualifications. Prior to 1966, the pension was payable to those age 70 or over but in 1966 a reduction in pensionable age from 70 to 65, to be completed over a five-year period, was begun. By 1967, the pension was payable at age 68 and over, in 1968 it is payable to those age 67 and over, in 1969 to those age 66 and over and, from 1970 on, to those age 65 and over. Until 1967 the pension amounted to \$75 a month but, in 1968 and succeeding years, the amount may be adjusted in line with changes in the Pension Index developed for the Canada Pension Plan (see p. 328).

The old age security pension is payable to a person of attained age who has resided in Canada for ten years immediately preceding the approval of his application for the pension. Any gaps in the ten-year period may be offset if the applicant had resided in Canada in earlier years for periods of time equal in total to double the length of the gaps; in this case, however, the applicant must also have resided in Canada for one year immediately before his application for pension. The pension is also payable to persons of attained age who have left Canada before reaching that age but who have had 40 years of residence in Canada since age 18. A pensioner may absent himself from Canada and continue to receive payments. If he has lived in Canada for 25 years since his 21st birthday, payment outside of Canada may continue indefinitely; if not, payment is continued for six months, in addition to the month of departure, and is then suspended, to be resumed only with the month in which he returns to Canada.

The program is administered by the Department of National Health and Welfare through regional offices located in each provincial capital, to which application is made for pension. It is financed through a 3-p.c. sales tax, a 3-p.c. tax on corporation income and, subject to a limit of \$240 a year, a 4-p.c. tax on taxable personal income. The revenues from these sources are paid into a separate fund called the Old Age Security Fund, from which are paid the Old Age Security pensions and, from Jan. 1, 1967, benefits under the Guaranteed Income Supplement program (see below).

Guaranteed Income Supplement.—An amendment to the Old Age Security Act, approved in December 1966, provides for the payment of a monthly guaranteed income supplement to Old Age Security pensioners who have little or no income other than the pension. The supplement is limited to pensioners born on or before Dec. 31, 1910, who by reason of age are or will be unable to benefit substantially from the Canada or Quebec Pension Plans. The program commenced on Jan. 1, 1967.

Pensioners with only the Old Age Security pension will receive a guaranteed annual income of \$1,260 for a single pensioner and, for a married couple who are both pensioners,

\$2,520. This consists of the monthly \$75 pension and the monthly supplement of \$30, which is subject to an income test. Pensioners with income in addition to their old age security pension may receive partial benefits. Beginning January 1967 the maximum supplement is \$30 a month; in any year after 1967 it is to be 40 p.c. of the amount of the flat-rate Old Age Security pension.

The maximum supplement is reduced by \$1 a month for every full \$2 a month of income over and above the Old Age Security pension. Income for this purpose is the same as that computed in accordance with the Income Tax Act. In the case of a married couple, each is considered to have one half of their combined income. Where one spouse will not be receiving an Old Age Security pension at any time in the current year, \$450 is deducted from one half of the combined income in calculating the income of the pensioner for supplement purposes. Payments will not be made to married couples unless both spouses submit returns. However, in order to prevent undue hardship when no statement of income is obtainable, a person may be deemed to be single for purposes of determining income. Furthermore, although marital status is determined as at Dec. 31 of the preceding year, even if this status should change in the current year, a special provision allows a person to be deemed either married or single in the preceding year.

If a pensioner who is in receipt of a supplement leaves Canada, the supplement will be paid for the month of departure and for six further months. Payment will then be discontinued until his return.

The Guaranteed Income Supplement program is administered in conjunction with the Old Age Security pension program. An application for the supplement is sent to each person when he begins to receive the Old Age Security pension and subsequently at the beginning of each calendar year. Entitlement is re-assessed each year on the basis of the pensioner's income in the preceding year.

1.—Old Age Security and Guaranteed Income Supplement Statistics, Year or Period¹ Ended Mar. 31, 1967 with Totals for 1965-67

Province or Territory	Old Age Security		Guaranteed Income Supplement	
	Pensioners in March	Net Pensions Paid During Fiscal Year	Pensioners in March	Net Supplements Paid during Period ¹
	No.	\$	No.	\$
Newfoundland.....	23,733	19,706,767	18,037	1,520,404
Prince Edward Island.....	9,665	8,207,258	8,444	521,776
Nova Scotia.....	54,670	46,533,160	30,613	2,464,576
New Brunswick.....	40,565	34,358,253	21,937	1,795,836
Quebec.....	275,515	228,797,146	136,306	10,968,346
Ontario.....	451,069	377,628,224	128,639	9,761,469
Manitoba.....	71,471	60,767,093	35,633	2,731,259
Saskatchewan.....	71,892	61,478,838	33,132	2,545,612
Alberta.....	82,145	69,524,557	36,526	2,863,528
British Columbia.....	147,930	125,662,029	57,922	4,421,545
Yukon Territory.....	328	281,926	26	1,343
Northwest Territories.....	558	462,979	25	1,784
Canada.....	1967	1,229,561	505,240	39,597,478
	1966	1,105,776	...	...
	1965	993,552	...	...

¹ Three months; Guaranteed Income Supplement program commenced Jan. 1, 1967.

Subsection 3.—Family Allowances

The Family Allowances Act of 1944 is designed to assist in providing equal opportunity for all Canadian children. The allowances do not involve a means test and are paid from the federal Consolidated Revenue Fund. They do not constitute taxable income

but there is a smaller income tax exemption for children eligible for allowances. The Province of Quebec introduced its own family allowances program, supplementing the federal scheme, under legislation enacted in 1967 (see p. 342).

Allowances are payable in respect of every child under the age of 16 years who was born in Canada, or who has been a resident of the country for one year, or whose father or mother was domiciled in Canada for three years immediately prior to the birth of the child. Payment is made by cheque each month, normally to the mother, although any person who substantially maintains the child may be paid the allowance on his behalf. Allowances are paid at the monthly rate of \$6 for each child under 10 years of age and \$8 for each child age 10 or over but under 16 years. If the allowances are not spent for the purposes outlined in the Act, payment may be discontinued or made to some other person or agency on behalf of the child. Allowances are not payable for any child who fails to comply with provincial school regulations or on behalf of a girl who is married and under 16 years of age.

The program is administered by the Department of National Health and Welfare through regional offices located in each provincial capital. The Regional Director located at Edmonton also administers the accounts of residents in the Yukon and Northwest Territories.

The Federal Government pays family assistance, at the rates applicable for family allowances, for each child under 16 years of age resident in Canada and supported by an immigrant who has landed for permanent residence in Canada, or by a Canadian returned to Canada to reside permanently. The assistance, which is payable monthly for the first year of the child's residence in Canada, is intended to bridge the gap until the child becomes eligible for family allowances.

2.—Family Allowances Statistics, by Province, Year Ended Mar. 31, 1967 with Totals for 1965-67

Province or Territory	Families Receiving Allowances in March	Children for Whom Allowances Paid in March	Average Number of Children per Family in March	Average Allowance ¹		Net Total Allowances Paid during Fiscal Year
				Per Family	Per Child	
	No.	No.	No.	\$	\$	\$
Newfoundland.....	70,435	210,082	2.98	20.08	6.73	16,960,053
Prince Edward Island.....	14,099	39,342	2.79	18.81	6.74	3,190,484
Nova Scotia.....	105,214	264,998	2.52	17.01	6.75	21,507,992
New Brunswick.....	82,929	229,798	2.77	18.76	6.77	18,752,034
Quebec.....	805,315	2,034,966	2.53	17.10	6.77	165,095,827
Ontario.....	1,007,038	2,308,919	2.29	15.48	6.75	185,309,485
Manitoba.....	131,011	315,166	2.41	16.26	6.76	25,651,443
Saskatchewan.....	130,876	330,015	2.52	17.05	6.76	26,870,934
Alberta.....	216,086	527,411	2.44	16.50	6.76	42,563,978
British Columbia.....	264,480	605,443	2.29	15.50	6.77	48,525,782
Yukon Territory.....	2,169	5,285	2.44	16.52	6.78	425,625
Northwest Territories.....	4,289	11,449	2.67	18.51	6.93	941,310
Canada.....1967	2,833,941	6,882,874	2.43	16.42	6.76	555,794,947
1966	2,785,636	6,865,057	2.46	16.59	6.74	551,734,824
1965	2,746,549	6,817,013	2.48	16.68	6.72	545,775,231

¹ Based on gross payment for March.

Subsection 4.—Youth Allowances

Legislation providing for a program of youth allowances became effective Sept. 1, 1964. The Federal Government does not provide youth allowances in Quebec, which has had its own program since 1961, but that province is compensated by a tax abatement adjusted to equal the amount that the Federal Government would otherwise have paid in allowances to Quebec residents.

Under the federal program, monthly allowances of \$10 are payable in respect of all dependent youths age 16 and 17 who are receiving full-time educational training or are precluded from doing so by reason of physical or mental infirmity. Both the parent or guardian and the youth must normally be physically present and living in a province other than Quebec. The allowance is not payable to a parent who resides in Quebec or outside Canada, regardless of where his child may be attending school. However, a dependent youth may attend school in Quebec or outside Canada, or, if disabled, receive care or training in Quebec or outside Canada and still be considered eligible, on the basis that he is a resident of a province other than Quebec but is temporarily absent.

Allowances normally commence with the month following that in which family allowances cease and continue until the school year terminates. They are paid retroactively for the summer months when the youth returns to school at the commencement of the new school year. Allowances for a disabled child not attending school, however, are payable continuously throughout the year. Should the youth leave school, leave the country permanently, cease to be maintained, take up residence in Quebec, or die, the allowance ceases. Otherwise, the youth allowance continues until the end of the month in which the youth reaches age 18. Youth allowances are considered not to be income for any purpose of the Income Tax Act.

The program is administered by the Department of National Health and Welfare. The National Director of the family allowances and old age security programs also administers youth allowances, assisted by regional directors located in each of the provincial capitals other than Quebec City. The costs of youth allowances are met from the Consolidated Revenue Fund.

3.—Youth Allowances Statistics, by Province, Year Ended Mar. 31, 1967 with Totals for 1965-67

Province or Territory	Youths for Whom Allowances Paid in March			Net Total Allowances Paid during Fiscal Year
	Attending School Full-Time	Having Physical or Mental Infirmity	Total Youths	
	No.	No.	No.	\$
Newfoundland.....	15,527	157	15,684	1,686,661
Prince Edward Island.....	3,432	38	3,470	397,505
Nova Scotia.....	22,938	192	23,130	2,654,786
New Brunswick.....	19,878	199	20,077	2,300,043
Ontario.....	192,861	1,234	194,095	22,491,673
Manitoba.....	27,775	134	27,909	3,242,828
Saskatchewan.....	29,718	86	29,804	3,434,721
Alberta.....	42,868	235	43,103	4,960,783
British Columbia.....	54,039	252	54,291	6,159,249
Yukon Territory.....	243	1	244	28,044
Northwest Territories.....	312	2	314	39,340
Canada.....1967	409,591	2,530	412,121	47,395,633
1966	402,802	1,992	404,794	46,468,550
1965	396,277	1,756	398,033	26,869,815¹

¹ Seven months; program became effective Sept. 1, 1964.

Section 2.—Federal-Provincial Programs

Subsection 1.—Canada Assistance Plan

The Canada Assistance Plan was enacted in 1966 as a comprehensive public assistance measure to complement other income security measures. It provides, under agreements with the provinces, federal contributions of 50 p.c. of the costs of assistance to persons in need and of the costs of certain welfare services. The Plan is designed to replace the Unemployment Assistance Act, 1956, although the latter will continue in

effect in some provinces for an interim period with respect to certain programs that utilize a means test and are not covered under the Canada Assistance Plan. The Canada Assistance Plan legislation provides that the provinces may discontinue their programs of old age assistance, blind persons allowances and disabled persons allowances and instead give aid under their general programs, with costs shared under the Canada Assistance Plan. All provinces had signed agreements under the Canada Assistance Plan by the end of August 1967. The arrangements for contracting out of certain shared-cost programs that were introduced in 1965 under the Established Programs (Interim Arrangements) Act are applied to Quebec's agreement under the Plan.

Effective from Apr. 1, 1966, the Canada Assistance Plan extends federal sharing to include the following costs, which were not shared under the Unemployment Assistance Act: assistance to needy mothers with dependent children, maintenance of children in the care of provincially approved child welfare agencies, health care services to needy persons, and the extension of welfare services to prevent or remove causes of dependency or to assist recipients in achieving self-support. The only eligibility requirement specified is that of need, which is to be determined through an assessment of budgetary requirements as well as of income and resources. A province must not require previous residence as a condition of eligibility for assistance or for continued assistance. Rates of assistance and eligibility requirements are set by the province so that they may be adjusted to local conditions and the needs of special groups. The Plan requires that the provinces establish procedures for appeal from decisions that relate to the provision of assistance.

The Federal Government reimburses the provinces for 50 p.c. of the cost of assistance provided to persons in need and for 50 p.c. of certain costs of improving or extending welfare services.

"Assistance" includes any form of aid to or on behalf of persons in need for the purpose of providing basic requirements such as food, shelter and clothing; items necessary for the safety, well-being or rehabilitation of a person in need, or for a handicapped person; special home care such as a home for the aged, a nursing home or a welfare institution for children; travel and transportation; funerals and burials; health care services; welfare services purchased by or at the request of provincially approved agencies; and comfort allowances for inmates of institutions.

The cost of improving and extending welfare services may be calculated either (1) as the amount by which the cost of providing welfare services exceeds that of the period from Apr. 1, 1964 to Mar. 31, 1965 or (2) as the cost of employing persons who are engaged wholly or mainly in the performance of welfare service functions and who are employed in positions filled after Mar. 31, 1965. Included for sharable purposes are the costs of salaries and employee benefits, travel, research, consultation, fees for conferences and seminars, and certain costs of staff training. The sharing of costs of work activity projects that prepare persons for employment and the extension of provincial welfare services to Indians on reserves, on Crown lands or in unorganized territory are governed by special agreements.

Subsection 2.—Unemployment Assistance

Under the Unemployment Assistance Act 1956, as amended, the Federal Government was authorized to enter into an agreement with any province to reimburse it for 50 p.c. of the unemployment assistance expenditures made by the province and its municipalities to persons and their dependants who are unemployed and in need. Payments to both employable and unemployable persons are sharable, as are the costs of maintaining persons in homes for special care, and the costs of supplementary aid to recipients of old age security

pensions, old age assistance, blind persons allowances, disabled persons allowances and unemployment insurance benefits where the amount of assistance is determined on the basis of need. Federal sharing was extended to mothers' allowances from Apr. 1, 1966. Effective from Apr. 1, 1965, Quebec received partial payment for assistance costs under the Established Programs (Interim Arrangements) Act under which the province is entitled to compensation in the form of a tax abatement and an equalization payment.

As noted above, all programs under which aid is based on a needs test will be included for reimbursement under the Canada Assistance Plan under which all provinces have signed agreements. The Unemployment Assistance Act, however, will remain in effect for a transitional period in some provinces to cover the costs of aid to residual groups of persons under certain means test programs during the process of conversion to needs test programs.

4.—Unemployment Assistance, by Province, Year Ended Mar. 31, 1966 with Totals for 1964-66

Province	Re- cipients ¹ in March	Federal Share of Un- employment Assistance Costs ²	Province or Territory	Re- cipients ¹ in March	Federal Share of Un- employment Assistance Costs ²
	No.	\$		No.	\$
Newfoundland.....	51,604	4,484,744	Alberta.....	62,783	11,055,266
Prince Edward Island.....	2,914	337,825	British Columbia.....	93,904	20,104,665
Nova Scotia.....	26,186	1,921,734	Yukon Territory.....	309	71,577
New Brunswick.....	25,582	1,514,402	Northwest Territories.....	1,338	62,514
Quebec ³	258,415	22,586,629			
Ontario.....	134,824	28,318,276	Canada.....	1966	725,475
Manitoba.....	30,806	5,718,057		1965	723,073
Saskatchewan.....	36,810	4,218,635		1964	733,489

¹ Includes dependants.

² Payment figures shown are for the months to which the claims made under the program relate and include amounts paid to the provinces by the Federal Government after the end of the fiscal year.

³ During the year, Quebec claims were reduced by \$20,149,002, representing the federal portion of the cost for which compensation was provided in the form of a tax abatement.

Subsection 3.—Old Age Assistance

The Old Age Assistance Act of 1951, as amended, provides for federal reimbursement to the provinces for assistance to persons age 65 or over who are in need and who meet the ten-year residence and income requirements. For an unmarried person, total income allowed, including assistance, may not exceed \$1,260 a year. For a married couple, it may not exceed \$2,220 a year or, when the spouse is blind within the meaning of the Blind Persons Allowance Act, \$2,580 a year.

A pensioner is transferred to Old Age Security on reaching the eligible age for it (see p. 329). The federal contribution may not exceed 50 p.c. of \$75 a month or of the assistance paid, whichever is less. The province administers the program and, within the limits of the federal Act, may fix the amount of assistance payable, the maximum income allowed and other conditions of eligibility. Effective Apr. 1, 1965, Quebec withdrew from this program.

Under the terms of the Canada Assistance Plan a province may elect to aid needy persons over 65 years of age under a general assistance program with costs shared under the Canada Assistance Plan (see p. 333). Accordingly, several provinces no longer accept applications under the Old Age Assistance program. The provinces may also transfer current recipients of old age assistance to their general programs, provided that there is no decrease in benefits, and they are gradually altering their programs in this way.

5.—Old Age Assistance Statistics, by Province, Year Ended Mar. 31, 1967 with Totals for 1965-67

Province	Recipients in Month of March	Average Monthly Assistance	Federal Contribution during Year	Province or Territory	Recipients in Month of March	Average Monthly Assistance	Federal Contribution during Year
	No.	\$	\$		No.	\$	\$
Newfoundland.....	3,110	71.69	1,675,756	Alberta.....	3,617	65.62	2,092,389
Prince Edward Island.....	712	70.35	390,463	British Columbia.....	4,074	72.18	2,252,115
Nova Scotia.....	3,134	68.39	1,667,068	Yukon Territory.....	15	74.73	8,826
New Brunswick.....	3,033	70.06	1,620,148	Northwest Territories.....	120	72.75	62,085
Quebec ¹	—	—	—				
Ontario.....	13,279	67.04	7,238,584	Canada..... 1967	35,546	68.52	19,750,744
Manitoba.....	2,956	68.73	1,611,858	1966	52,988²	68.85²	26,980,510²
Saskatchewan.....	1,496	67.62	1,131,452	1965	107,354	69.43	44,990,955

¹ Effective Apr. 1, 1965, Quebec withdrew from this program.
lowering of the age limit for old age security pensions.

² Part of the decrease resulted from the

Subsection 4.—Allowances for Blind Persons

The Blind Persons Act of 1951, as amended, provides for federal reimbursement to the provinces for allowances to blind persons age 18 or over who meet the ten-year residence and income requirements. For an unmarried person, total income including the allowance may not exceed \$1,500 a year; for a person with no spouse but with one or more dependent children, \$1,980; for a married couple, \$2,580. When the spouse is also blind, income of the couple may not exceed \$2,700.

The federal contribution may not exceed 75 p.c. of \$75 a month or of the allowance paid, whichever is less. The province administers the program and, within the limits of the federal Act, may fix the amount of allowance payable and the maximum income allowed. Effective Apr. 1, 1965, Quebec withdrew from this program.

Under the terms of the Canada Assistance Plan a province may elect to aid needy blind persons under a general assistance program with costs shared under the Canada Assistance Plan (see p. 333). Accordingly, several provinces no longer accept applications under the Blind Persons Allowance Act. The provinces may also transfer current recipients of blind persons allowances to their general programs, provided that there is no decrease in benefits, and are gradually altering their programs in this way.

6.—Statistics of Allowances for the Blind, by Province, Year Ended Mar. 31, 1967 with Totals for 1965-67

Province	Recipients in Month of March	Average Monthly Allowance	Federal Contribution during Year	Province or Territory	Recipients in Month of March	Average Monthly Allowance	Federal Contribution during Year
	No.	\$	\$		No.	\$	\$
Newfoundland.....	438	72.98	292,224	Alberta.....	412	71.89	284,078
Prince Edward Island.....	67	72.92	46,142	British Columbia.....	484	73.60	336,639
Nova Scotia.....	682	73.19	466,060	Yukon Territory.....	5	75.00	3,881
New Brunswick.....	589	73.44	407,930	Northwest Territories.....	38	75.00	28,069
Quebec ¹	—	—	—				
Ontario.....	1,710	67.09	1,081,629	Canada..... 1967	5,022	70.94	3,377,418
Manitoba.....	325	72.58	226,219	1966	5,437	71.05	3,632,212
Saskatchewan.....	272	71.60	204,547	1965	8,586	72.10	5,624,702

¹ Effective Apr. 1 1965, Quebec withdrew from this program.

Subsection 5.—Allowances for Disabled Persons

The Disabled Persons Act of 1954, as amended, provides for federal reimbursement to the provinces for allowances paid to permanently and totally disabled persons age 18 or over who are in need and who meet the required definition of "permanent and total disability", the ten-year residence requirement and specified income limits. For an unmarried person, total income including the allowance may not exceed \$1,260 a year. For a married couple the limit is \$2,220 a year except that if the spouse is blind within the meaning of the Blind Persons Act, income of the couple may not exceed \$2,580 a year.

The federal contribution may not exceed 50 p.c. of \$75 a month or of the allowance paid, whichever is less. The province administers the program and, within the limits of the federal Act, may fix the amount of allowance payable, the maximum income allowed and other conditions of eligibility. Effective Apr. 1, 1965, Quebec withdrew from this program.

Under the terms of the Canada Assistance Plan a province may elect to aid needy disabled persons under a general assistance program with costs shared under the Canada Assistance Plan (see p. 333). Accordingly, several provinces no longer accept applications under the Disabled Persons Allowances Act. The provinces may also transfer current recipients of disabled persons allowances to their general programs, provided that there is no decrease in benefits, and are gradually altering their programs in this way.

7.—Statistics of Allowances for Disabled Persons, by Province, Year Ended Mar. 31, 1967 with Totals for 1965-67

Province	Recipients in Month of March	Average Monthly Allowance	Federal Contribution during Year	Province or Territory	Recipients in Month of March	Average Monthly Allowance	Federal Contribution during Year
	No.	\$	\$		No.	\$	\$
Newfoundland.....	1,873	74.55	833,340	Alberta.....	1,931	72.89	859,166
Prince Edward Island.....	814	74.35	368,992	British Columbia.....	2,422	73.75	1,071,978
Nova Scotia.....	3,522	73.88	1,584,061	Yukon Territory.....	2	75.00	900
New Brunswick.....	2,266	74.36	1,041,900	Northwest Territories.....	23	74.62	11,212
Quebec ¹	—	—	—	Canada.....1967	34,590	73.57	15,026,378
Ontario.....	19,800	72.02	8,377,469	1966	34,588	73.51	14,979,430
Manitoba.....	1,547	73.91	687,543	1965	53,103	73.86	23,365,493
Saskatchewan ²	890	70.94	189,817				

¹ Effective Apr. 1, 1965, Quebec withdrew from this program.

² Most recipients transferred to provincial social assistance program.

Subsection 6.—Fitness and Amateur Sport Program

The Fitness and Amateur Sport Act of 1961, administered by the Minister of National Health and Welfare, provides up to \$5,000,000 a year to be spent on the encouragement, promotion and development of active leisure pursuits for everyone in Canada. Although the federal, provincial and municipal governments provide the funds and resources, the programs are carried out almost entirely by non-governmental agencies. Under the Act, Canadian participation in active recreation and amateur sport can be promoted internationally, nationally, provincially and locally through financial assistance, technical guidance, the provision of teaching materials, assistance to training, research and the construction of facilities. The National Advisory Council of Fitness and Amateur Sport advises the Minister of National Health and Welfare in fitness and amateur sport matters; its 30 members are chosen for their interest and experience, with at least one member from each province.

The federal program has five elements. *Grants to National Organizations*, totalling more than \$1,000,000 a year, go to some 50 national fitness and sporting organizations to help to train coaches, to improve standards of instruction, to increase participation in sports,

to aid the holding of national and regional competitions, and to assist Canadian athletic teams at international competitions. *Grants for Athletic Events* of nation-wide interest assist in the holding of such events as the 1967 Pan-American Games in Winnipeg and the 1967 Canadian Winter Games in the Quebec area. *Grants for Training and Research* are made for graduate study in fitness and amateur sport, for research fellowships, and for scholarships and bursaries for undergraduate study in physical education and recreation. *Services of the Department of National Health and Welfare* include the provision of technical advice, training material and promotional aids. Visual aids for coaching, printed guides on particular sports and recreational activities, and technical information on the construction and use of facilities are provided. Committees of the National Advisory Council meet frequently with the executives of sports organizations to discuss policy and a federal-provincial committee of government officials advises on and co-ordinates governmental aspects of the program. The Department also co-ordinates work done by other federal agencies in fitness and amateur sport. *Grants to the Provinces* of \$1,000,000 a year are made to those that enter into cost-sharing agreements for provincial programs of fitness and amateur sports. The Federal Government meets 60 p.c. of the cost of projects and the full cost of the undergraduate scholarships and bursaries. Applications for all grants at the provincial or local level are made in the first instance to the responsible provincial department. Most of the ideas for recreational activities and plans originate in the municipal recreation departments where the needs of the individual communities are best known.

Subsection 7.—National Welfare Grant Program

The National Welfare Grant Program was established in 1962 to help develop and strengthen welfare services in Canada through a general welfare and professional training grant and a welfare research grant. The variety of provisions within the program, along with its associated consultative and technical services, allow it to operate as a flexible instrument in the development of welfare services and to give a major emphasis to experimental activities in the welfare field.

For the year ending Mar. 31, 1968, \$2,500,000 was allotted to the program. Provincial governments, municipal welfare departments, non-governmental welfare and correctional agencies, universities and individuals may be the ultimate recipients of grants under one or more provisions of the program. Some are financed and administered entirely by the Federal Government; others require application through a provincial department of welfare that actually makes the award on a cost-sharing basis with the Federal Government.

General welfare, bursary, training and staff development grants are shared provisions. General welfare grants provide funds for projects to improve welfare administration, to develop provincial consultative and co-ordinating services, and to strengthen and extend public and voluntary welfare services in child welfare, aging, general assistance and other welfare fields. Bursaries are provided for full-time graduate training at Canadian schools of social work, and training grants are available for employees of government and voluntary welfare agencies. Staff development grants provide support for a wide variety of staff training programs. The other provisions of the program are administered by the Federal Government. Welfare scholarships are awarded for graduate study in Canadian schools of social work and fellowships for advanced study at Canadian and foreign universities. Teaching and field instruction grants assist Canadian schools of social work with the salaries of additional staff required to implement the program.

Under the welfare research grant, funds are provided for a variety of research studies undertaken by public and voluntary welfare and correctional agencies, universities and research institutions.

Effective Apr. 1, 1967, a mental retardation grant, established for five years only, will be administered in conjunction with the National Welfare Grants program. It will

support research and demonstration projects designed to expand knowledge and to apply that knowledge along with experience to mitigate the continuing growth in the burden of disability due to retardation.

Expenditures under the program for the year ended Mar. 31, 1967 totalled \$1,278,083, distributed as follows: research, \$171,503; bursaries, fellowships and scholarships, \$214,328; training, \$21,435; teaching and field instruction, \$379,900; staff development, \$37,490; national voluntary welfare agency projects, \$61,692; and welfare services and demonstration projects, \$391,735.

Subsection 8.—Vocational Rehabilitation

The federal-provincial vocational rehabilitation program, which began in 1952, was consolidated and extended under the Vocational Rehabilitation of Disabled Persons Act, 1961. Federal-provincial agreements under this Act provide for equal sharing of costs between the Federal Government and the provinces. These costs include co-ordination and provision of services to disabled or other vocationally disadvantaged individuals, training of rehabilitative personnel and research and publicity. Approved services, supplied by a provincial government or purchased from voluntary agencies by a provincial government, comprise medical, social and vocational assessment, counselling restorative services, the provision of prostheses, vocational training or educational upgrading, rehabilitation allowances, and tools, books and equipment. Vocational training has been arranged under the provisions of the Technical and Vocational Training Assistance Act, which provides for equal sharing by Canada and the provinces of the cost of training disabled persons. Employment placement is provided through Canada Manpower Centres of the Department of Manpower and Immigration.

In each participating province a provincial co-ordinator or director of rehabilitation is responsible for the co-ordination and administration of services to disabled or vocationally disadvantaged persons. The federal aspects of the program are administered by the Director of Vocational Rehabilitation of the federal Department of Manpower and Immigration. Liaison with the provinces is carried out from Ottawa and the vocational rehabilitation staff supplies specialist consultative services. It is planned that the federal responsibilities in this area will gradually be assumed by the five regional manpower offices of the Department's Canada Manpower Division. The Vocational Rehabilitation Branch, through its Section on Older Workers, also has the function of encouraging a more favourable employment climate for older workers through an educational program, encouragement of research, maintenance of liaison with employer and labour organizations and voluntary agencies in Canada, assembly and dissemination of informational material, and supportive services to the regional manpower offices. During 1966-67, there was a broader acceptance of the idea that vocational rehabilitative services, which had worked successfully for the physically or mentally disabled, could be applied with equal benefit to socially disadvantaged persons, such as older workers, parolees, ex-convicts, people with personal, attitudinal, emotional or family problems and those with significantly low educational levels or lacking in knowledge of the world of work.

Among other agencies contributing to vocational rehabilitation are the Workmen's Compensation Boards in all provinces which provide for the rehabilitation of injured workmen. The prosthetics services established for veterans are being extended to the general public through 12 prosthetic centres administered by the Department of National Health and Welfare.

In the year ended Mar. 31, 1967, federal-provincial expenditures under the vocational rehabilitation program (exclusive of vocational training) totalled \$2,050,083. Reports were received on 2,679 disabled or vocationally disadvantaged persons rehabilitated during the year. Before rehabilitation the cost of supporting these people and their dependants was an estimated annual amount of \$2,045,512; after rehabilitation the estimated annual earnings of those gainfully employed were \$7,084,755.

Section 3.—Provincial Welfare Programs

Major welfare programs governed by provincial legislation include general assistance and social allowances, mothers' allowances, services for the aged, and child welfare services. Also, the Province of Quebec operates the Quebec Pension Plan, which is comparable to the Canada Pension Plan (see pp. 326-329), and has also enacted in 1967 its own family allowances program (see p. 342). In most provinces, responsibility for a number of the programs is shared by the provinces and their municipalities. Provincial administration is carried out through the department of public welfare in each province; several departments have established regional offices to facilitate administration and to provide consultative services to the municipalities.

The provincial departments of public welfare are placing increasing emphasis on standards of administration and on rehabilitative services for social assistance recipients. Several provinces recently have introduced legislation under which the province will share with the municipalities the costs of preventive and rehabilitative welfare services.

Public services are supplemented by those of voluntary agencies whose interests include the welfare of families and children and of groups with special needs, such as the aged, recent immigrants, youth groups, and released prisoners. Welfare councils and social planning councils contribute to the planning and co-ordinating of local welfare services. Local voluntary agencies and institutions may receive public grants, depending on the nature and standard of their services although their main support is usually from united funds or community chests, or from sponsoring organizations.

Subsection 1.—General Assistance

All provinces make legislative provision for general assistance on a means or needs test basis to needy persons and their dependants who cannot qualify for other forms of aid, and some provinces include those whose benefits under other programs are not adequate. Where necessary, the aid may be for maintenance in homes for special care. In addition to financial aid for the basic needs of food, clothing, shelter and utilities, some provinces provide incapacitation or rehabilitation allowances, counselling and homemaking services, and post-sanatorium care and some provide allowances to persons with long-term need: persons who are unable to support themselves because of mental or physical disability or because of their age, mothers with dependent children and, in two provinces (Ontario and Quebec), needy widows and unmarried women of 60 years of age or over. This assistance is administered by the province or by the municipalities with substantial financial support from the province, which, in turn, is reimbursed by the Federal Government under the Canada Assistance Plan for 50 p.c. of the provincial and municipal assistance given (see pp. 332-333).

The provincial departments of public welfare have regulatory and supervisory powers over municipal administration of general assistance and may require certain standards as a condition of provincial aid. Length of residence is not a condition of aid in any province, but in four provinces the residence of the applicant as defined by statute determines which municipality may be financially responsible for his aid. Municipal residence is not a factor in British Columbia and Saskatchewan which have equalized municipal payments, or in Quebec where municipalities may administer the general assistance program but are not required to contribute to the cost of allowances, or in Newfoundland, Prince Edward Island and New Brunswick where aid is administered provincially. The provincial authority takes responsibility for aid in unorganized areas within the province. Under the federal Unemployment Assistance Act and subsequently under the Canada Assistance Plan, all provinces have agreed that residence shall not be a condition of assistance for applicants who move from one province to another. For persons without provincial residence (usually a period of one year), aid may be given by the province or the municipality and a charge-back may be made to the province or municipality of residence.

The formula for provincial-municipal sharing of costs is determined by the province. In the seven provinces where the municipalities have some administrative responsibility, a substantial proportion of the costs of aid given to needy persons is borne by the province through assumption of responsibility for aid to certain categories of persons and through reimbursement of municipal expenditures varying by province from 40 p.c. to 100 p.c.

Subsection 2.—Mothers' Allowances

All provinces make provision for allowances to needy mothers with dependent children. A number of provinces include such allowances in a broadened program of provincial allowances to persons in several categories of long-term need or have incorporated this legislation with general assistance within a single Act.

Subject to conditions of eligibility which vary from province to province, mothers' allowances or their equivalent are payable to applicants who are widowed, or whose husbands are mentally incapacitated or are physically disabled and unable to support their families. They are also payable to deserted wives who meet specified conditions; in several provinces to mothers whose husbands are in penal institutions, or who are divorced or legally separated; in some, to unmarried mothers; and in Ontario, Quebec and Nova Scotia to Indian mothers. Foster mothers are eligible under certain circumstances in most provinces.

The age limit for children is 16 years in most provinces, with provision made to extend payment for a specified period if the child is attending school or if he is physically or mentally handicapped. Rates of allowances and the amount of outside income and resources allowed vary by province.

Cost of allowances and services are sharable with the Federal Government under the Canada Assistance Plan (pp. 332-333).

8.—Mothers' Allowances, by Province, as at Mar. 31, 1966 with Totals for 1964-66

Province	Families Assisted	Children Assisted	Payments during the Year Ended Mar. 31	Province	Families Assisted	Children Assisted	Payments during the Year Ended Mar. 31
	No.	No.	\$		No.	No.	\$
Newfoundland.....	5,733	15,191	5,660,494	Saskatchewan.....	2,380	6,230	3,844,144
Prince Edward Island	370	917	254,651	Alberta ²	457	813	503,075
Nova Scotia.....	3,361	8,147	2,659,400	British Columbia...	2	2	2
New Brunswick.....	2,222	6,025	2,046,539				
Quebec.....	15,816	47,898	20,882,058	Canada¹.....1966	46,216	135,496	61,776,635
Ontario ¹	13,621	45,359	22,529,712	1965	44,359	121,399	56,075,733
Manitoba.....	2,256	4,916	3,396,562	1964	46,235	123,791	55,425,144

¹ Includes dependent fathers assisted under the General Welfare Assistance Act.

² An additional 5,163 families with 15,222 children were assisted under Part III of the Public Welfare Act; cost of allowances for this group is not available separately.

³ Caseload merged with social assistance; no separate figures available.

⁴ Exclusive of British Columbia.

Subsection 3.—Living Accommodation for Elderly Persons

In all provinces, homes for the aged and infirm are provided under provincial, municipal or voluntary auspices. These homes are required to meet standards set out in provincial legislation relating to homes for the aged, welfare institutions, or public health. Voluntary homes are usually provincially inspected and in some provinces must be licensed.

All provinces in varying degrees make capital grants toward the construction or renovation of homes for the aged by municipalities or voluntary organizations; and, generally speaking, such homes are exempt from municipal taxation. Some provinces also make provision for capital grants to municipalities, charitable organizations, or non-profit corpora-

tions for the construction of low-rental housing for elderly persons. These projects are usually built under Sect. 16 of the National Housing Act, which provides for long-term low-interest loans to non-profit corporations constructing low-rental self-contained or hostel accommodation for older people. Units for the aged may also be included in low-rental public housing projects for families, built under Sect. 35 of the Act. One province pays annual maintenance grants in respect to each self-contained housing unit and for each bed in an approved special-care home operated under municipal, charitable, or non-profit corporation auspices.

In some provinces efforts are made to place well, elderly people in small proprietary boarding homes. Those who are chronically ill may be cared for in chronic or convalescent hospitals, private or public nursing homes and some homes for the aged. All provinces contribute to the maintenance of needy persons in homes for the aged or other homes for special care, and these costs are shared by the Federal Government under the Canada Assistance Plan (see pp. 332-333).

Subsection 4.—Child Welfare Services

Child welfare services, which include child protection and care, services for unmarried parents and adoption services, are provided in all provinces under provincial legislation. The program may be administered by the provincial authority or the responsibility may be delegated to local children's aid societies (voluntary agencies with boards of directors, operating under charter and under the general supervision of provincial departments). In Newfoundland, Prince Edward Island, New Brunswick, Saskatchewan and Alberta, child welfare services are administered by the province; in Quebec they are administered by recognized voluntary agencies and institutions, religious and secular; in Ontario, a network of local children's aid societies is responsible for the services; in Nova Scotia, Manitoba and British Columbia, services are administered by local children's aid societies in the heavily populated areas and by the province elsewhere.

Children's aid societies and the recognized agencies in Quebec receive substantial provincial grants and sometimes municipal grants and in many areas they also receive support from private subscriptions or from community chests or united funds. Maintenance costs for children in care of a voluntary or public agency, formerly borne by the province or partly by the municipality of residence and partly by the province, are sharable with the Federal Government under the Canada Assistance Plan (pp. 332-333).

Child welfare agencies, provincial or private, have the authority to investigate cases of alleged neglect and, if necessary, to apprehend a child and to bring the case before a judge upon whom rests the responsibility of deciding whether in fact the child is neglected. When neglect is proved, the court may direct that the child be returned to his parent or parents, under supervision, or be made a ward of the province or a children's aid society. Services are provided as appropriate and include services to children in their own homes, care in foster boarding homes or adoption homes, or, for children who need it, in selected institutions. Children placed for adoption may be wards or they may be placed on the written consent of the parent. Adoptions, including those arranged privately, number about 15,500 annually.

Child welfare agencies make use of the small selective institution for placement of children who are forced to be away from their own homes for a short period or who may need preparation for placement in foster homes, and emphasis is increasingly being placed on group-living homes. The development of small, highly specialized institutions, which function as treatment centres for emotionally disturbed children, is of particular significance. Institutions for children are governed by provincial child welfare legislation and by provincial or municipal public health regulations; they are generally subject to inspection and in some provinces to licensing. Sources of income may include private subscriptions, provincial grants, and maintenance payments on behalf of children in care, payable by the parents, the placing agency or the responsible municipal or provincial department.

Services to unmarried parents include casework services to the mother and possibly to the father, legal assistance in obtaining support for the child from the father, and foster-home care or adoption services for the child. Support for unmarried mothers may be obtained under general assistance programs. In many centres, homes for unmarried mothers are operated under private or religious auspices.

Day nurseries for the children of working mothers are established only in the larger centres. These are chiefly under voluntary auspices, except in Ontario, where there are also municipally sponsored day nurseries operated with the aid of provincial grants.

Subsection 5.—Quebec's Family Allowances Program

The Province of Quebec introduced its own family allowances program under legislation enacted in 1967. Under this plan, the following allowances are paid at the end of each six-month period to persons satisfying the relationship and residence requirements in respect of children under 16 years of age: \$15 for one child, \$32.50 for two children, \$52.50 for three children, \$77.50 for four, \$107.50 for five, \$142.50 for six, and an extra \$35 for each child after the sixth. These allowances are increased by \$5 for each child between the ages of 12 and 16 years. To qualify for the allowances, children must be attending school regularly from the time when they are first required to do so, unless prevented by physical or mental infirmity. These allowances supplement those paid under the federal scheme.

Section 4.—International Welfare*

Canada is actively involved in the social welfare and social development work of the United Nations and its Specialized Agencies and of various international voluntary organizations. At the United Nations, Canada is represented on the Economic and Social Council and the Commission for Social Development, is a member of the governing bodies of the United Nations Children's Fund (UNICEF) and the International Labour Organization and actively participates in the work of a number of related organizations such as the Society for International Development and the International Social Security Association. The Department of National Health and Welfare provides representatives to such organizations, participates in international studies and contributes to the development of Canadian policy in this sector.

Under the External Aid Program, Canada supports a number of social welfare projects in developing regions as well as providing social work and social welfare training for foreign students recommended by their governments. The necessary technical services to the bilateral and multilateral aid programs in this sector are supplied by the Department of National Health and Welfare which also works closely with a number of Canadian voluntary organizations engaged in social development, many of which have technical personnel working in the field in addition to the direct assistance which they provide. The Overseas Institute of Canada acts as a clearing house and information centre for the voluntary sector.

PART III.—HEALTH AND SOCIAL WELFARE EXPENDITURES

Section 1.—Government Expenditures on Health and Social Welfare

In the seven years ended Mar. 31, 1961-67, expenditures by all levels of government on health and social welfare rose from \$3,356,800,000 to a record high estimated at \$5,369,500,000, an increase of 60 p.c. If these figures are adjusted to take account of the growth in population, the increase in per capita expenditures—from \$186 to \$266—is about 43 p.c. Government expenditures may also be measured in relation to major economic indicators; on this basis, annual government expenditures on health and social welfare over the 1961-67

* See also pp. 174-179.

period have remained relatively stable, fluctuating between 11.8 p.c. and 12.8 p.c. of net national income and between 8.8 p.c. and 9.6 p.c. of gross national product; for the year ended Mar. 31, 1967, the values were 12.2 p.c. and 9.1 p.c., respectively.

The federal share of health and social welfare expenditures fell from 70.4 p.c. in 1960-61 to 60.7 p.c. in 1966-67, the provincial share rose from 26.4 p.c. to 36.9 p.c. and municipal outlays declined from 3.2 p.c. to 2.4 p.c. The relative federal declines in each of the three years since 1964-65 were caused to a substantial degree by increasing hospital expenditures by the provincial governments, augmented in the last two years by the effect of the 'opting out' arrangements made available to the provinces. Under the Established Programs (Interim Arrangements) Act, a province may opt out of federal-provincial programs, operate and finance these as provincial schemes and receive a tax abatement and an equalization payment from the Federal Government in lieu of a direct federal contribution to the program. This, of course, has the effect of showing an increase in provincial government expenditure while the federal fiscal payment is treated as a transfer payment. Thus, provincial expenditures include gross outlays by the Province of Quebec in respect of programs from which that province opted out, whereas the federal data do not include the large sums paid or transferred to that province under the Established Programs (Interim Arrangements) Act and other agreements. Compared with the previous year, 1965-66, health and social welfare expenditures by all levels of government increased by \$673,700,000 or 14 p.c. Although outlays by all governments increased, provincial expenditures showed the greatest gain. The proportion of government expenditures on health and social welfare taken up by health programs continues to grow; in 1960-61 such programs accounted for \$934,000,000 or 28 p.c. and in 1966-67 for \$2,041,000,000 or 38 p.c.

An outline of the principal components for 1966-67 shows the magnitude of the major programs and services—family allowances payments amounted to \$556,000,000, old age security payments to \$1,033,000,000 plus another \$40,000,000 for three months of the Guaranteed Income Supplement program which began on Jan. 1, 1967, unemployment insurance benefits to \$307,000,000, and veterans pensions and allowances to \$196,000,000 and \$104,000,000, respectively. These income-maintenance programs were entirely the responsibility of the Federal Government. In addition, payments under the youth allowances program, which commenced in September 1964, amounted to \$47,000,000 in 1966-67, excluding the Province of Quebec. That province had instituted a program of schooling allowances three years prior to the introduction of the federal program which necessitated a special arrangement whereby Quebec continued its program but with appropriate fiscal arrangements with the Federal Government.

Federal-provincial income-maintenance programs required expenditures of \$42,000,000 for old age assistance, \$4,600,000 for blindness allowances, \$29,500,000 for disabled persons allowances and \$260,000,000 for unemployment assistance, the latter including some municipal expenditures. Effective Apr. 1, 1965, Quebec withdrew from these federal-provincial programs under the Established Programs (Interim Arrangements) Act which entitled that province to a tax abatement as an equalization payment. Expenditures under the Canada Assistance Plan were estimated at \$60,000,000 in 1966-67. This program was designed to replace the Unemployment Assistance Act, although certain costs not covered by the Plan may continue to be paid under that Act. The Canada Assistance Plan may also replace the old age assistance, blind persons allowances and disabled persons allowances programs at the option of each province (pp. 332-333). Workmen's Compensation Boards spent \$160,000,000 on cash benefits for pensions and compensation. Welfare services for Indians and for veterans and the national employment service accounted for more than \$65,000,000 at the federal level.

In the field of health, federal grants to the provinces under the Hospital Insurance and Diagnostic Services Act totalled almost \$400,000,000 and grants for hospital construction and general health grants to the provinces and municipalities amounted to \$53,000,000. The Federal Government spent \$36,000,000 on its Indian and northern health services and \$55,000,000 on hospital and treatment services for veterans. Provincial expenditures

on hospital care are estimated to have totalled over \$1,100,000,000, and \$200,000,000 was spent on other health services. Workmen's Compensation Boards paid \$70,000,000 for medical aid and hospitalization, and municipal governments spent \$70,000,000 on health.

1.—Total, Per Capita and Percentage Distribution of Government Expenditures on Health and Social Welfare, by Level of Government, Years Ended Mar. 31, 1961-67

Year Ended Mar. 31—	Federal	Provincial	Municipal	Total
TOTAL EXPENDITURES				
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1961.....	2,362.1	885.7	109.0	3,356.8
1962.....	2,577.1	998.1	107.9	3,683.1
1963.....	2,683.5	1,086.8	117.3	3,887.6
1964.....	2,801.0	1,154.3	101.2	4,056.5
1965 ¹	2,969.9	1,362.5	110.0	4,442.4
1966 ¹	2,885.1	1,690.7	120.0	4,695.8
1967 ¹	3,259.5	1,980.0	130.0	5,369.5
PER CAPITA EXPENDITURES				
	\$	\$	\$	\$
1961.....	131.16	49.20	6.05	186.41
1962.....	140.38	54.37	5.88	200.63
1963.....	143.66	58.18	6.26	208.10
1964.....	147.33	60.75	5.31	213.39
1965 ¹	153.40	70.35	5.68	229.43
1966 ¹	146.41	85.82	6.09	238.32
1967 ¹	161.67	98.23	6.45	266.35
PERCENTAGE DISTRIBUTION				
1961.....	70.4	26.4	3.2	100.0
1962.....	70.0	27.1	2.9	100.0
1963.....	69.0	28.0	3.0	100.0
1964.....	69.0	28.5	2.5	100.0
1965 ¹	66.9	30.6	2.5	100.0
1966 ¹	61.4	36.0	2.6	100.0
1967 ¹	60.7	36.9	2.4	100.0

¹ Estimated.

Section 2.—Expenditures on Personal Health Care

Expenditures on personal health care comprise expenditures of hospitals, amounts received by physicians and dentists for professional services, amounts received by pharmacists for prescription services (i.e. for prescription drugs that are sold in retail drugstores), and an estimate of the amounts that private nurses, chiropractors, osteopaths and optometrists receive for their professional services; they therefore exclude expenditures on public health, capital costs (buildings and interest) and administration costs of public-health programs and of insurance plans.

Table 2 shows the components for each year from 1956 to 1965. Canadians spent a total of \$2,451,300,000 on personal health care in 1965, almost two and a half times as much as in 1956.

Expressed as a proportion of the gross national product, personal health care expenditures rose from 3.2 p.c. in 1956 to 4.7 p.c. in 1965. Expenditure per person over the same period changed from \$61.45 in 1956 to \$124.79 in 1965. Expressed in constant dollars, according to the consumer price index, the expenditure per person increased by 50 p.c. over the same period, or by an average of about 5 p.c. a year.

2.—Expenditures on Personal Health Care, 1956-65

(Millions of dollars)

Year	Hospital Services					Physicians' Services	Prescribed Drugs	Dentists' Services	Other Personal Health Services ³	Total
	General and Allied Special Hospitals	Psychiatric Institutions	Tuberculosis Sanatoria ¹	Government of Canada ²	All Hospitals					
1956..	380.8	77.6	30.6	40.8	529.8	240.1	71.8	81.5	65.0	988.2
1957..	422.9	87.5	31.0	45.3	586.7	271.8 ^r	84.5	87.3	70.0	1,100.3 ^r
1958..	462.3	99.0	30.4	48.4	640.1	301.3 ^r	90.3	98.1	85.0	1,214.8 ^r
1959..	542.6	111.6	29.6	50.3	734.1	325.7 ^r	106.5	98.7 ^r	95.0	1,360.0 ^r
1960..	625.2	120.2	30.1	53.9	829.4	355.0 ^r	109.6 ^r	109.6 ^r	105.0	1,508.6 ^r
1961..	713.4 ^r	134.9 ^r	29.9	63.9 ^r	942.1 ^r	388.3 ^r	112.8 ^r	116.6 ^r	115.0	1,674.8 ^r
1962..	802.9 ^r	144.4 ^r	29.1 ^r	70.3 ^r	1,046.7 ^r	406.1 ^r	114.6 ^r	121.5 ^r	125.0	1,813.9 ^r
1963..	900.1 ^r	163.0 ^r	28.1 ^r	73.8 ^r	1,165.0 ^r	453.4 ^r	128.0 ^r	132.7 ^r	135.0	2,014.1 ^r
1964..	1,003.7 ^r	182.1 ^r	25.9 ^r	76.8 ^r	1,288.5 ^r	495.7 ^r	137.6 ^r	147.6 ^r	145.0	2,214.4 ^r
1965..	1,125.9	210.7	25.9	79.8	1,442.3	545.1	149.1	159.8	155.0	2,451.3

¹ Excludes federal hospitals (Department of National Health and Welfare).² Excludes Department of

National Defence hospitals for 1956-60.

³ Estimates of expenditures for services of private nurses, chiropractors, osteopaths and optometrists; excludes hospital employees.

↑
An infant receiving oxygen mixture in the new Charles Camself Hospital for Indians and Eskimos at Edmonton, Alta. The \$7,000,000 hospital, operated by the Department of National Health and Welfare, replaced out-dated facilities in a building constructed in 1910.

An elderly woman being assisted to walk at Island Lodge and Geriatric Centre in Ottawa, a municipally operated institution completed in 1964 to accommodate 260 older persons. →



Larger numbers of children and older persons in the population, as well as new concepts and knowledge in health and welfare matters have contributed greatly to the need for social services and hence to the rapid growth of such services in recent years.

PART IV.—NATIONAL VOLUNTARY HEALTH AND WELFARE ACTIVITIES

A number of national voluntary agencies carry on important work in the provision of health and welfare services, planning research and education, supplementing the services of the federal and provincial authorities in many fields and playing a leading role in stimulating public awareness of health and welfare needs and in promoting action to meet them. The functions of twenty important voluntary agencies are described in the 1962 Year Book at pp. 270-274

Voluntary Medical Insurance.—About 12,010,000 Canadians, or 61 p.c. of the population of Canada, had voluntarily secured some protection against the costs of physicians' services at the end of 1965. This protection was provided by 60 non-profit plans with an enrolment of 6,530,000, and by some 80 private companies giving coverage to an estimated 5,480,000 persons. The total was 5,780,000 above the 1955 figure, which represented only 40 p.c. of the population.

The non-profit plans took in about \$216,800,000 in premiums and \$5,150,000 in other revenue in 1965, paid out \$188,900,000 in benefits and \$14,500,000 for administration, and were left with a surplus of approximately \$18,550,000. Thus, for every dollar of premiums, 87 cents were paid out in benefits, which amounted to approximately \$28.93 per person covered. In 1955, benefit payments had been \$41,400,000, representing 89 cents of the premium dollar and amounting to only \$13.17 per person.

Profit-making private companies wrote \$146,200,000 of premiums for health protection in 1965; they paid out \$113,300,000 in claims.

PART V.—VETERANS SERVICES*

The Department of Veterans Affairs administers most of the legislation known collectively as the Veterans Charter and also provides administrative facilities for the Canadian Pension Commission, which administers the Pension Act and Parts I to X of the Civilian War Pensions and Allowances Act; for the War Veterans Allowance Board, which administers the War Veterans Allowance Act and Part XI of the Civilian War Pensions and Allowances Act; and for the Secretary General (Canada) of the Commonwealth War Graves Commission.

The principal benefits now available to veterans are medical treatment for those eligible to receive it, land settlement and home construction assistance, educational assistance for the children of the war dead, veterans insurance, general welfare services, unused re-establishment credit, disability and dependants pensions and war veterans allowances. The work of the Department, except the administration of the Veterans' Land Act, is carried out through 18 district offices and four sub-district offices in Canada and one district office in England; the benefits of the Veterans' Land Act are administered through seven regional offices and 26 district offices across Canada.

Canada's war dead continue to be remembered by departmental memorial ceremonies in many parts of the world—in Hong Kong, Japan and Korea in December 1966; at the Vimy Memorial in France on the fiftieth anniversary of the battle of Vimy Ridge, Apr. 9, 1917; and at Dieppe, France, for the twenty-fifth anniversary of the Aug. 19, 1942, raid. The week of June 11-17, 1967, was celebrated across Canada as National Veterans' Week by the Government and by veterans' organizations. One of the national highlights was a dinner given by His Excellency the Governor General in honour of Canada's most distinguished war heroes, the winners of the Victoria Cross and the George Cross.

* Prepared by the Department of Veterans Affairs, Ottawa.

Section 1.—Pensions and Allowances

Disability and Dependants Pensions

Canadian Pension Commission.—The Canadian Pension Commission administers the Pension Act (RSC 1952, c. 207, as amended) and Parts I to X of the Civilian War Pensions and Allowances Act (RSC 1952, c. 51, as amended). The members of the Commission are appointed by the Governor in Council who may also impose upon the Commission duties in respect of any grants in the nature of pensions, etc., made under any statute other than the Pension Act. It reports to Parliament through the Minister of Veterans Affairs. The Commission has district offices in principal cities across Canada with a Senior Pension Medical Examiner in charge.

The Pension Act.—Previous issues of the Year Book contain information on the development of Canadian pension legislation together with yearly statistics of numbers and liabilities.

The Pension Act makes provision for the payment of pensions in respect of disability or death resulting from injury or disease incurred during or attributable to service with the Canadian Forces or the Naval, Army or Air Forces of Canada in time of war or peace. Provision is also made for supplementing, up to Canadian rates, awards of pension to or in respect of Canadians for disability or death suffered as a result of service in the British or Allied Forces during World War I or World War II, or payment of pension at Canadian rates in cases where the claim has been rejected by the government of the country concerned.

Federal legislation assented to Nov. 30, 1966 (SC 1966-67, c. 55), provided an increase of 15 p.c. in the basic rate of disability pension, retroactive to Sept. 1, 1966; the rate for a 100-p.c. disability was increased from \$2,400 to \$2,760 a year. The legislation also provided an increase in pension for widows of all ranks up to and including that of Colonel, from \$1,824 to \$2,100 a year. The statutory rates of pension with respect to other awards under the Pension Act remained the same.

The previous basic rate of disability pension was applicable to all ranks up to and including that of Colonel. Since the new rate is slightly higher than the rate for ranks higher than Colonel, the increase has the effect of making disability pension payable at the same rate for all ranks. The annual rates for a 100-p.c. disability for all ranks are:—

	\$
Pensioner.....	2,760
Wife.....	768
One child.....	360
Two children.....	624
Each additional child.....	216

For assessments lower than 100-p.c., the awards are proportionately less. Attendance allowance, which is payable to a pensioner who is totally disabled, helpless and in need of attendance, and which varies from a minimum of \$480 to a maximum of \$3,000 a year depending on the degree of attendance required, is paid in addition to pension. Although a pensioner must be totally disabled to receive this allowance, the disability resulting in the need of attendance may be non-pensionable.

The annual rates of pension for widows and children of all ranks up to and including that of Colonel and equivalent are:—

	\$
Widow.....	2,100
One child.....	720
Two children.....	1,248
Each additional child.....	432

Rates for widows are slightly higher if the deceased held a rank higher than that of Colonel or equivalent rank, the annual rate being \$2,160, but those for children remain the same for all ranks.

The Civilian War Pensions and Allowances Act, Parts I to X, provides for the payment of pensions to or on behalf of persons who served in certain civilian groups that were closely associated with the war effort during World War II and who suffered injury or death as a result of such service; these include merchant seamen, saltwater fishermen, auxiliary services personnel, ferry pilots of the RAF Transport Command, firefighters who served in Britain, etc.

1.—Pensions in Force under the Pension Act, as at Dec. 31, 1966

Service	Disability		Dependant		Disability and Dependant	
	Pensions in Force	Liability	Pensions in Force	Liability	Pensions in Force	Liability
	No.	\$	No.	\$	No.	\$
World War I.....	32,010	36,862,240	13,894	28,179,112	45,904	65,041,352
World War II.....	105,926	103,013,618	15,822	26,770,402	121,748	129,784,020
Regular Force.....	2,330	1,756,604	615	1,348,215	2,945	3,104,819
Special Force.....	1,871	1,582,425	186	308,208	2,057	1,890,633
Totals.....	142,137	143,214,887	30,517	56,605,937	172,654	199,820,824

War Veterans Allowances and Civilian War Allowances

War Veterans Allowance Board.—The War Veterans Allowance Board is a quasi-judicial body consisting, at present, of nine members appointed by the Governor in Council. The Board administers the War Veterans Allowance Act and Part XI of the Civilian War Pensions and Allowances Act and reports to Parliament through the Minister of Veterans Affairs. The Board acts as an appeal court for an applicant or recipient aggrieved by a decision of a District Authority and may, on its own motion, review and alter or reverse any adjudication of a District Authority. The Board is also responsible for instructing and guiding the District Authorities in the interpretation of policy and for advising the Minister with respect to Regulations concerning the administration of the Act.

War Veterans Allowance District Authorities.—In 1950, 18 District Authorities were established in the regional districts of the Department of Veterans Affairs and granted full power to adjudicate on all matters arising under the War Veterans Allowance Act. In 1960, a separate Authority, the Foreign Countries District Authority, located in Ottawa, was established to look after recipients living outside Canada. The members of a District Authority are employees of the Department of Veterans Affairs, appointed by the Minister with the approval of the Governor in Council.

War Veterans Allowances.—The purpose of the War Veterans Allowance Act, 1952, as amended, is to provide an allowance to otherwise qualified war veterans who, because of age or infirmity, are no longer able to derive their maintenance from employment and to ensure that their income does not fall below the scale specified in the Schedule to the Act. Widows and orphans of qualified veterans are eligible for benefits. Since its inception in 1930, the Act has been amended 14 times to meet additional needs of veterans

and their dependants. The most recent amendment (SC 1966-67, c. 55) increased monthly rates and annual income ceilings, effective Sept. 1, 1966. The monthly rates and the maximum total annual income ceilings are:—

<u>Item</u>	<u>Monthly Rate</u>	<u>Annual Income Ceiling¹</u>
	\$	\$
Single.....	105	1,740
Married.....	175	2,940
One orphan.....	60	1,005
Two orphans.....	105	1,605
Three or more orphans.....	141	2,016

¹ Where a recipient or spouse is blind, the income ceiling is \$120 higher.

At Mar. 31, 1967, there were 86,242 recipients of War Veterans Allowances, made up of 55,131 veterans, 30,793 widows and 318 orphans; 616 of the total resided outside Canada. The annual liability for all recipients was \$105,993,313.

Civilian War Pensions and Allowances.—Part XI of the Civilian War Pensions and Allowances Act makes available to certain groups of civilians, their widows and orphans, benefits similar to those available to veterans under the War Veterans Allowance Act. These groups, which performed meritorious service in World War I or World War II, are: Canadian merchant seamen of both Wars; non-Canadians who served on Canadian merchant ships in either War; Canadian voluntary aid detachments of World War I; Canadian firefighters of World War II; Canadian welfare workers of World War II; Canadian transatlantic aircrew of World War II; and Newfoundland Overseas Forestry Unit of World War II. Service for at least six months at sea or overseas in the group concerned is the prime requisite for eligibility as to service. VADs in World War I are required to have served on the Continent of Europe or for at least 365 days in Britain prior to the Armistice. A pensioner under Parts I to X of the Act is also eligible. The monthly rates and the maximum total annual income ceilings are identical to those in the War Veterans Allowance Act. At Mar. 31, 1967, there were 1,215 civilians, 301 widows and five orphans in receipt of Civilian War Allowances, a total of 1,521 recipients of whom seven were residing outside Canada. The annual liability was \$2,253,359.

Veterans' Bureau

The Veterans' Bureau, which is a branch of the Department of Veterans Affairs, assists former members of the Armed Forces and their dependants and former members of the various auxiliary organizations in preparing and presenting claims to the Canadian Pension Commission; it has been in operation for 36 years. The Chief Pensions Advocate, who heads the Bureau at Ottawa, is assisted by pensions advocates, most of whom are lawyers located in the departmental district offices. The pensions advocates appear as counsel for applicants before Appeal Boards of the Commission and, in addition, advise pensioners and applicants upon any provision of the Pension Act or phase of pension law or administration that may have a bearing on pension claims. No charge is made for the services of the Bureau.

During 1966, the Veterans' Bureau submitted 6,988 claims to the Canadian Pension Commission for adjudication, of which 33 p.c. were wholly or partially granted. These included 1,187 claims presented to Appeal Boards of the Commission. During the year, 1,530 straight entitlement claims were submitted to the Commission, based on service in World War I and peacetime, of which 244 were wholly or partially granted; claims based on service in World War II, Korea and Special Duty Areas numbered 3,247, of which 953 were wholly or partially granted; and of the 1,024 miscellaneous claims submitted, 622 were wholly or partially granted.

Section 2.—Welfare Services

Welfare services for veterans and, where appropriate, their dependants are provided by the Welfare Services Branch. These include the administration of assigned statutes; the conducting of field work and reporting for other branches of the Department, the Canadian Pension Commission, the War Veterans Allowance Board and Services Benevolent Funds; and the provision of a rehabilitation and welfare program of advice and counselling including referral, where indicated, to other public or private agencies, veterans organizations, etc.

War Service Grants.—War service gratuities payable under the War Service Grants Act to veterans of World War II and the operations to restore peace in Korea are now payable only in cases where delayed application is acceptable. Re-establishment credit payable under the same Act is available up to Oct. 31, 1968. Payment of the credit, except for a balance of \$50 or less, is not made in cash to the veteran but is released on his behalf for specified purposes. Up to the end of 1966 a total of \$315,409,729 had been paid out and unused balances amounted to \$8,520,517. During 1966 the total paid out amounted to \$188,897 made up of \$91,522 for purchases of homes and for repairs and furniture; \$17,151 for purchases of businesses, tools and equipment; and \$80,224 for miscellaneous items such as insurance, special equipment for training, clothing, etc.

Assistance Fund.—Recipients of benefits under the War Veterans Allowance Act and Part XI of the Civilian War Pensions and Allowances Act living in Canada may be given help from the Assistance Fund if their total income is lower than the permitted maximum. Assistance may take the form of a monthly supplement based on shelter, fuel, food, clothing, personal care and specified health costs or of a single award to meet an unusual or emergency need. The number of persons assisted during 1966 was 21,837, the number in receipt of monthly supplements at the end of the year was 15,135 and the Fund expenditures for the year amounted to \$5,929,316; comparable figures for 1965 were 21,050, 15,736, and \$5,489,826.

Education Assistance to Children.—The Children of War Dead (Education Assistance) Act provides help in the form of allowances and the payment of fees for the post-secondary education of children of those whose deaths have been attributed to military service. Assistance is restricted to children attending, in Canada, educational institutions which require secondary school graduation, matriculation or equivalent standing for admission. These include, in addition to universities and colleges, such facilities as hospital schools of teaching and institutes of technology. From its inception in July 1953 to the end of 1966, expenditures totalled \$6,243,506, of which \$3,288,745 was spent in allowances and \$2,954,761 in fees. By the end of 1966, 4,129 children of Canada's war dead had been approved for training. Of these, 1,612 had successfully completed training—229 had obtained degrees in arts and science, 287 in education, 109 in engineering and applied science, 37 in social work, 25 in medicine, 27 in law, 108 in other university faculties, 391 in nursing, 219 in teaching and 181 in administrative and technological fields. At the same date there were 645 university undergraduates and 227 students in non-university courses receiving assistance.

Veterans Insurance.—The Returned Soldiers Insurance Act (SC 1920, c. 54 as amended) provides eligibility to contract for life insurance with the Federal Government up to a maximum of \$5,000 to any one veteran of World War I. No policies were issued after Aug. 31, 1933. There were 48,319 policies issued during the eight years in which the Act was open amounting to \$109,299,500 and, of these, there were 6,124 in force with a value of \$13,152,060 on Dec. 31, 1966.

The Veterans Insurance Act (RSC 1952, c. 279 as amended) enables veterans following their discharge and widows of those who died during World War II service to contract with the Federal Government for a maximum of \$10,000 life insurance. Veterans with

active service in Korea were extended eligibility by virtue of the Veterans Benefit Act 1954. The period of eligibility to apply for this insurance will cease Oct. 31, 1968. To Dec. 31, 1966, 55,766 policies in the amount of \$183,753,500 had been issued and, of these 27,285 policies with a value of \$87,039,099 were in force.

Rehabilitation and Welfare.—Welfare officers at Departmental District Offices work closely with other branches of the Department, with other public agencies at all levels and with private agencies and organizations in assisting veterans and their dependants to deal with problems of social adjustment, particularly those associated with physical disabilities or the disabilities of increasing age. The latter occur more frequently, of course, as the age of the veteran population increases. The Department operates a complete program of university, vocational, technical and home training, with allowances, for disabled pensioned veterans. Vocational rehabilitation is also promoted by training assistance available through close collaboration with the federal Department of Manpower and Immigration and provincial rehabilitation and re-training facilities. Academic, vocational and technical correspondence courses are available to all veterans of the Canadian Forces who served in World War I, World War II and Korea, provided they reside in Canada. By mutual agreements, these courses are purchased by the Department from Provincial Departments of Education. Sheltered workshops operated at Toronto and Montreal and home assembly work in other centres produce poppies and memorial wreaths and crosses associated with Remembrance Day observances. Finished products are sold to the Dominion Command of the Royal Canadian Legion.

Section 3.—Treatment Services

Treatment Activity.—The Treatment Services Branch of the Department of Veterans Affairs provides medical, dental and prosthetic services for entitled veterans throughout Canada as authorized by the Veterans Treatment Regulations. Service is also provided for members of the Armed Forces, the Royal Canadian Mounted Police, and the wards of other governments or departments at the request and expense of the authorities concerned.

It is the responsibility of the Branch to provide examination and treatment to disabled pensioners for their pensionable disabilities, and to provide treatment to war veterans allowance recipients (but not their dependants), veterans whose service and need make them eligible for domiciliary care, and veterans whose service and financial circumstances render them eligible for free treatment or at a cost adjusted to their ability to pay. If a bed is available, any veteran may receive treatment in a Departmental hospital on a guarantee of payment of the cost of hospitalization. The pensioner receives treatment for his pensionable disabilities regardless of his place of residence but service to other veterans is available in Canada only. Where Departmental facilities are not readily accessible, an eligible veteran may obtain treatment at the expense of the Department in an outside hospital from a doctor of his choice.

Under the federal-provincial hospital insurance program, DVA hospitals are recognized for the provision of insured services to veterans. Any necessary premiums are paid on behalf of veterans in receipt of war veterans allowance. The Veterans Treatment Regulations remain the authority for the treatment of veterans (and others) in DVA institutions and elsewhere under Departmental responsibility, regardless of whether or not the hospitalization is at the expense of the insurance plan.

Hospital Facilities.—Treatment is provided in 10 active-treatment hospitals located at Halifax, N.S.; Saint John, N.B.; Quebec City, Montreal and Ste. Anne de Bellevue, Que.; London, Ont.; Winnipeg, Man.; Calgary, Alta.; and Vancouver and Victoria, B.C.; and in three domiciliary care homes at Ottawa, Ont.; Saskatoon, Sask.; and Edmonton, Alta. The rated bed capacity of these institutions at Dec. 31, 1966 was 6,910 beds. It should also be noted that in Ottawa both acute and chronic cases that require definitive

treatment are admitted to the National Defence Medical Centre. A veterans pavilion of 67 beds is located at the St. John's General Hospital, St. John's, Nfld. Sunnybrook Hospital was transferred to the University of Toronto in 1966 but 1,200 beds are still available for the priority use of veterans. An additional 565 priority beds are available for veterans in community hospitals located in St. John's, Nfld.; Charlottetown, P.E.I.; Kingston and Port Arthur, Ont.; Regina and Saskatoon, Sask.; and Edmonton, Alta.

Medical Staff and Training Programs.—Many of the professional staffs of Departmental active-treatment hospitals are employed on a part-time basis; in the main they are recommended for appointment by the Deans of Medicine of the universities with which the hospitals are affiliated. Most members of the medical staffs are engaged in teaching and private practice and hold appointments on the medical faculties of the various universities. In the active-treatment institutions, medical teaching programs are maintained, which are considered essential to attract highly qualified professional men and thus ensure the highest quality of medical care. All active-treatment hospitals have been approved by the Royal College of Physicians and Surgeons of Canada for postgraduate teaching in medicine and surgery, and the majority are also approved for advanced postgraduate training in various other specialties. An extensive resident program is in effect in the medical specialties as well as in other fields such as physiotherapy, occupational therapy, dietary, psychology and medical social services. A school for the training of nursing assistants, operated at Camp Hill Hospital in Halifax, has an annual capacity of 70 and graduates are offered employment in other Departmental hospitals. A program of postgraduate and continuing education in pharmacy is conducted, in conjunction with the School of Pharmacy of the University of Toronto, at Westminster Hospital, London, Ont.

Medical Research.—During 1966, there were 90 projects in progress under the clinical research program. This program is varied but in the main deals with conditions affecting aging, which the Department is in a special position to investigate. Self-contained clinical investigation units are established in active-treatment hospitals located at Montreal, London, Winnipeg and Vancouver.

Section 4.—Land Settlement and House Construction

The Veterans' Land Act, enacted in 1942 and broadened extensively in its scope and financial provisions since then, provides financial, technical and supervisory assistance to World War II and Korean Force veterans to enable them to engage in agriculture or commercial fishing on a full-time or part-time basis; to acquire, build or improve homes; and to settle on provincial, federal and Indian reserve lands. Pursuant to the latest amendments made to the Act in June 1965, loans may be made of up to \$40,000 for full-time farmers on economic farm units, to \$18,000 for small family farmers, to \$16,000 for small holders (part-time farmers) and to \$18,000 for veterans building houses on city-size lots. The financial assistance available under the Act is comparable to that available to non-veterans under the Farm Credit Act and the National Housing Act.

Since inception and up to Dec. 31, 1966, 105,667 veterans were settled under the provisions of the Act. Of this total, 30,741 were established as full-time farmers, 62,055 as small holders, 5,596 as Crown land settlers, 1,345 as commercial fishermen, 1,678 Indian veterans were established on reservations and 4,252 veterans acted as their own contractors in building homes on city-size lots. Subsequent to settlement, 13,905 farmers and 9,147 small holders and commercial fishermen were provided with additional financial assistance. In 1966, over \$87,500,000 was approved on behalf of 9,118 veterans. From the commencement of operations to the end of 1966, nearly \$760,000,000 was spent on repayable loans, advances and non-repayable grants. As at Dec. 31, 1966, nearly 56,200 veterans had earned conditional grants in excess of \$101,000,000. Since inception and up to the end of

1966, 32,899 of the veterans who had earned grants successfully concluded their settlement contracts—12,026 farmers, 14,686 small holders, 452 commercial fishermen, 4,325 Crown land settlers and 1,410 Indian veterans residing on reservations.

Advisory, supervisory and appraisal field services are provided by a staff of field officers who are highly trained in the techniques pertaining to agriculture, construction and land appraisal. During 1966, 5,998 properties were appraised, exclusive of more than 100 appraisal assignments carried out on behalf of other government departments and agencies. Altogether, 1,239 new houses were started—1,026 small holdings and for commercial fishermen, 152 farm homes, and 61 on city-size lots—and 1,001 new houses were completed. Five construction schools were organized which were attended by 247 veterans.

Continued interest is shown in the Veterans' Land Act group life insurance. By Dec. 31, 1966, 9,065 veterans were insured for almost \$75,000,000. Since the group plan was first introduced, 48 insured veterans have died and \$287,000 has been paid to retire their indebtedness.

Veterans continue to maintain a favourable record of repayment. Instalments falling due in 1966 amounted to over \$21,000,000, excluding share-of-crop payments. During the year, over 97 p.c. of the total amount due was collected and the 1,234 veterans under share-of-crop agreements paid over \$1,600,000.

2.—Summary of Operations under the Veterans' Land Act, as at Dec. 31, 1966

Item	Full-Time Farming	Small Holding	Commercial Fishing	Provincial Lands	Federal Lands	Indian Reserves	City-Size Lots	Total
Settlements made.....No.	30,741	62,055	1,345	5,034	562	1,678	4,252	105,667
Additional loans made....."	13,905	9,075	72	—	—	—	—	23,052
Total loans made....."	44,646	71,130	1,417	5,034	562	1,678	4,252	128,719
Public funds spent.....\$'000	263,110	435,370	6,773	11,086	1,218	3,762	38,581	759,900
Conditional grants earned.....No.	22,425	27,202	837	4,030	295	1,410	—	56,199
.....\$'000	46,702	40,131	1,528	9,188	692	3,223	—	101,464
Grants earned—titles released to veterans.....No.	12,026	14,686	452	4,030	295	1,410	—	32,899
Accounts under administration....."	13,606	35,986	698	302	135	—	78	52,218 ¹
Houses built....."	2,521	26,494	321	1,468	127	—	4,199	35,130
Houses under construction....."	124	914	7	10	3	—	59	1,117

¹ Includes 1,413 civilian purchaser accounts.

Section 5.—Commonwealth War Graves Commission

The current Charters of the Commonwealth War Graves Commission consist of two documents—the Original Charter of Incorporation dated May 21, 1917, and the new Supplemental Charter dated June 8, 1964. Under these Charters the Commission is entrusted with the marking and maintenance in perpetuity of the graves of those of the British Empire and Commonwealth Armed Forces who lost their lives between Aug. 4, 1914, and Aug. 31, 1921, and between Sept. 3, 1939, and Dec. 31, 1947, and with the erection of memorials to commemorate those with no known grave.

The Canadian High Commissioner in London, England, is the official Commission member for Canada, the Minister of Veterans Affairs is the Agent of the Commission in Canada, and the office of the Secretary-General of the Canadian Agency is in the Veterans Affairs Building Ottawa.

A message conveying the congratulations and support of the Government and the people of Canada to the Commonwealth War Graves Commission on the fiftieth anniversary of the Commission was read at a special meeting on May 18, 1967, presided over by His Royal Highness the Duke of Gloucester, President of the Commission, which took place at St. James's Palace, London, England.

CHAPTER VII.—EDUCATION

CONSPECTUS

	PAGE		PAGE
Part I.—Formal Education.....	354	Subsection 4. Adult Education.....	381
SECTION 1. THE CURRENT EDUCATION SITUATION.....	354	Part II.—Cultural Activities Related to Education.....	383
SECTION 2. ADMINISTRATION AND ORGANIZATION OF EDUCATION.....	356	SECTION 1. THE ARTS AND EDUCATION.....	383
SECTION 3. STATISTICS OF SCHOOLS, UNIVERSITIES AND COLLEGES.....	367	SECTION 2. THE EDUCATIONAL FUNCTIONS OF THE CANADIAN BROADCASTING CORPORATION AND THE NATIONAL FILM BOARD.....	391
Subsection 1. Elementary and Secondary Schools.....	372	SECTION 3. THE CANADA COUNCIL.....	395
Subsection 2. Universities and Colleges..	375	SECTION 4. LIBRARY SERVICES.....	396
Subsection 3. Vocational Education.....	380		

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

PART I.—FORMAL EDUCATION*

Section 1.—The Current Education Situation

The Canadian education scene in the mid-1960s continues to be dominated by the need for the development of ever greater knowledge, skills, understanding and appreciation among the nation's youth in order to prepare them, individually and as a community, for the challenges they are expected to face in the future. It is widely recognized that this need should be met not only by developing still further the élite at the top of the academic pyramid but also by extending the base to include all young persons, whatever their abilities and aptitudes and whatever their social circumstances and financial resources.

The findings of systematic research as well as the sometimes bitter experiences of schoolmen have brought about an increased realization of the great diversity in aptitude patterns among young people. If all are to be educated so that individual potential may be fully realized, it follows that there must be an equal diversity in the programs of study or training. Facilities for those of academic and scholarly inclination have existed for many years so that recent emphasis has been placed upon the provision of programs suited to those of more practical bent and to the introduction of other measures designed to hold students within the formal education systems to ever-increasing levels of age and attainment. The modern-day labour force has little use for the untrained and poorly educated young person but is greatly in need of qualified tradesmen, technicians and professionals. For this reason there has been an upsurge in the building of vocational and composite schools, the establishment of community colleges and the introduction of policies and practices to cope more adequately with individual differences, such as non-graded systems, subject-promotion schemes and the extension of guidance facilities.

Efforts are also being made to overcome the financial barriers to continuing education. The investigations of demographers and sociologists are confirming and quantifying the long-held suspicions that financial constraints are operating to deny education to many

* Revised in the Education Division, Dominion Bureau of Statistics.

Canadians who could profit from it. Various methods are therefore being sought to lighten the financial burden upon the individual and to equalize the rapidly increasing load being carried by the taxpayer. It is now evident that the Federal Government has a key role to play in this matter, particularly in adult technical and vocational training and in university education—both matters of prime concern to the nation as a whole. Acknowledgment of this fact is to be seen in the increasing activities of the federal Department of Manpower and Immigration, the formation of a federal office to deal with higher education, the founding of a nation-wide Service for Admission to Colleges and Universities, the holding of an interprovincial Ministers' conference on education and manpower, and renewed attempts to introduce uniform methods of statistical reporting.

Thus it appears that ethical considerations concerning the duties of society in the satisfaction of the personal needs of the individual and economic considerations concerning the kinds of individuals required to satisfy the manpower needs of society are combining to encourage the extension and equalization of educational opportunity. The rising costs of this endeavour are causing a reappraisal of traditional methods of financing education, tending toward the assumption of increasing proportions of the load by higher levels of government. Taken along with other developments in the economic, social and cultural life of the community, this is resulting in the emergence of the federal authority as an important partner in the task of providing for the education of Canadians.

Section 2.—Administration and Organization of Education

Responsibility for Education in Canada

Canada is a federal state, in which responsibility for the organization and administration of public education is exercised by the provincial governments. The Federal Government is directly concerned only with the provision of education for certain special groups—some 64,500 Indian and 3,300 Eskimo children of school age, other children in the Territories, inmates of federal penitentiaries and families of members of the Armed Forces on military stations (although whenever possible provincial educational facilities are used). In addition, the Federal Government makes grants for adult vocational training, provides per capita grants to each province to be divided among its universities and colleges, participates to a considerable extent in informal education and makes grants-in-aid for research personnel and equipment that assist educational institutions indirectly.

Because each of the ten provinces has the authority and responsibility for organizing its education system as it sees fit, organization, policies and practices differ from province to province. Each has a department of education, headed by a minister who is a member of the Cabinet. Ontario has, in addition, a Department of University Affairs under its Minister of Education. Each department is administered by a deputy minister, or director, who is a professional educationist and a public servant. He advises the minister, supervises the department and gives a measure of permanency to its education policy, in general carries out that policy, and is responsible for the enforcement of the Public School Act. The department of education usually also includes: a chief inspector of schools and his staff of local inspectors; directors or supervisors of curricula, technical education, teacher training, home economics, guidance, physical education, audio-visual education, correspondence instruction and adult education; directors or supervisors of other sections (according to the needs of the particular province); and technical personnel and clerks. Quebec operates a dual system, with an associate deputy minister for each of the Roman Catholic and Protestant sectors. In Newfoundland, which has a public denominational system, there is a superintendent for each one of the five denominations recognized by the School Act.

Other provincial departments having some responsibility for operating school programs are: departments of labour, which operate apprenticeship programs; agriculture depart-

ments, which operate agriculture schools; departments of the attorney-general or of welfare, which operate reform schools; and departments of lands and forests, which operate forest ranger schools.

From the beginning, each department of education has undertaken, among other things, to provide: (1) inspection services to ensure maintenance of standards; (2) the training and certification of teachers; (3) courses of study and lists of prescribed or approved textbooks; (4) financial assistance to local authorities in the construction and operation of schools; and (5) regulations for the guidance of trustees and teachers. In return, each department requires regular reports from the schools. When first introduced, government grants to schools were based on such factors as the number of teachers, enrolment, days in session and attendance. Somewhat later, special grants were introduced in most provinces to meet a variety of expenses, such as the construction of the first school, the organizing of special classes, providing transportation for pupils, school lunches and other contingencies. A number of provinces made provision for equalization grants, and now the majority have a foundation program of one kind or another.

The work of the departments of education has grown considerably. Many have expanded their services in the fields of health, audio-visual aids, art, music, agriculture, special education, correspondence courses and prevocational and trade courses. At the same time there has been an increasing delegation of authority to local boards and school staffs. One illustration of this tendency is a reduction in the number of departmental (external) year-end examinations. Few provinces now provide for more than one or two such examinations—at the end of the final and, in some cases, also at the end of the second last year of the secondary school course. Another illustration is the increasing use of approved lists of textbooks from which local authorities may make their own choice, instead of lists of prescribed texts. Courses of study are now seldom planned only by one or two experts in the department; instead they result from conferences and workshops including active teachers and other interested individuals or bodies. In most provinces "curriculum construction" is considered to be a continuous procedure.

Local Units of Administration

In all provinces, school laws provide for the establishment and operation of schools by local education authorities, which operate under the Public School Act and are held responsible to the provincial government and resident ratepayers for the actual operation of the local schools. Through the delegation of authority, education becomes a provincial-local partnership with the degree of decentralization reviewed intermittently. Questions concerning the allocation of responsibilities between the provincial and local authorities will probably occupy the minds of Canadians for decades to come, as well as problems such as the optimum size of administrative units, schools and classes.

At one time, the provincial departments delegated authority to publicly elected or appointed boards, which functioned as corporations under the School Acts and regulations. These three-man boards were expected to establish and maintain a school, select a qualified teacher and prepare a budget for presentation to the municipal authorities. As towns and cities developed, the original boards remained as units but provision was made in the legislation for urban school boards with more members and generally (although not always) with responsibility for both the elementary and secondary schools.

Rural school districts were typically about four miles square, their size determined largely by the need for the school to be within walking distance of the homes it served. As time went by, the realization grew that the manner of living was changing, that farms were becoming much larger and more mechanized, that most farmers had trucks and automobiles, that there were fewer children to the square mile and that it would be more efficient and economical to provide central schools and transportation. There was also considerable discontent among the teachers, as security of tenure was rarely found under the three-man local school boards. Further, the shortage of teachers, differences among the districts in their ability to pay for education, and a demand for secondary school facilities in rural areas all combined to force the establishment of larger administrative units.

Under provincial legislation, larger units are now in effect in Nova Scotia, New Brunswick, Saskatchewan, Alberta and British Columbia, and their establishment is being encouraged and promoted in Newfoundland, Prince Edward Island and Manitoba. (Newfoundland is a somewhat special case in which the denominational school districts, already rather large geographically, are proceeding toward some kind of amalgamation of provision of joint services.) Ontario has abolished the local school sections in favour of township school areas and is now beginning to promote reorganization into county units with responsibility for both elementary and secondary education. In Quebec, the greater part of the Protestant system is organized into larger units and the Catholic system has reorganized its administrative structure (for secondary education) into 55 regions.

In some provinces the local boards disappeared when the larger units were formed; in others they were retained with limited powers and duties. The larger unit boards accept responsibility for providing the necessary staff, buildings, equipment and transportation. Where local boards remain, they usually function in an advisory capacity and look after the buildings and grounds.

Elementary and Secondary Education

Enrolment in elementary and secondary schools has been increasing year by year until, in 1965-66, there were 4,893,000 pupils enrolled in public and separate schools, 195,000 in private schools and 216,000 full-time students in various vocational schools and courses, both public and private.

Each September, most Canadian children of age six enter an eight-grade elementary school. At about 14 years of age, nearly 90 p.c. of those who entered grade 1 enter a regular four- or five-year secondary school. From the graduates at this level a limited number—about 13 p.c. of those who began school—go on to college or university where rather more than half of them pursue a three- or four-year program leading to a bachelor degree in arts or science and the remainder enrol in various professional courses such as commerce, education, engineering, law, medicine, theology, etc.

The 8-4 plan leading from grade 1 to university was for many years the basic plan for organizing the curriculum and schools, other than those of Catholic Quebec. This plan, although still followed in some rural, village, town and city schools, has been modified from time to time in various provinces, cities or groups of schools, as it appeared inadequate to meet the demands arising from new aims of education. There are a number of variants to be found at present in Canada: the addition of one or even two kindergarten years at the beginning of the system; the addition of an extra year to high school, providing five rather than four years of secondary schooling; the introduction of junior high schools, changing the organization to a 6-3-3 or 6-3-4 plan; or again, the combining of the first six years of elementary school into two units, each designed to reach certain specified goals during a three-year period. A fairly recent innovation is the establishment of junior colleges, affiliated with universities, in which the last one or two years of high school and the first one or two years of college are offered.

The first secondary schools were predominantly academic and prepared their pupils for entry into university. Until recent years, vocational schools were to be found only in the large cities, although schools in some of the smaller centres did provide a few commercial and technical subjects as options in the academic curriculum. Today, besides commercial and vocational high schools, there are, in increasing number, composite and regional high schools that provide courses in home economics, agriculture, shop-work and commercial subjects as well as in the regular secondary school subjects. The number of subjects offered has also increased greatly and the number of options available, particularly in certain provinces, provides a wide choice for pupils with a great variety of abilities and aims. Three programs can frequently be distinguished—the university entrance course, the general course for those who wish to complete an academic type of program before entering employment, and vocational courses for those who wish to enter skilled trades. Thus, attention is given to the minority who will go on to institutions of higher learning,

while the majority, who will look for jobs, are prepared for entry to their chosen occupation. Considerable emphasis has been placed on music, art, physical education, guidance and group activities but not at the expense of the basic subjects that provide a general foundation.

Education in the Catholic Schools of Quebec

Although Catholic education in Quebec has been considered sufficiently different to warrant a separate description, it is conducted after much the same fashion as education in the other provinces. All types of schools familiar to Canadians elsewhere are to be found in Quebec, including ungraded rural elementary schools, graded urban schools, secondary schools with academic bias, vocational schools and, at the top, universities. The administrative structure of school boards, inspectors and central departmental officials is also broadly similar. Such differences as exist are of historical origin and arise out of the traditional French-Canadian conception of education, which involved the belief that the greatest contribution by French Canadians to Canada's future could be made by preserving their language and culture, that religion should be an integral part of education, that boys and girls were best educated separately, that education was a privilege and that those who were considering entering the professions might make such a decision at the end of the elementary school. Education was regarded as a means of producing good citizens by training boys to become bread-winners and girls to become home-makers.

A unique feature of the Quebec Catholic system is the existence of the *collèges classiques* which, operated by religious orders, serve by affiliation as the arts faculties of the French-language universities. They accept students who have completed grade 7 and provide an eight-year course leading to the *baccalauréat* and entrance to certain university faculties. Out of the scholarly traditions of this system has arisen the cultural and professional élite in law, medicine, theology and the arts in French Canada.

The political, social and economic ferment of the present decade is being reflected in education and is resulting in rapid and complex changes in the organizational structure and in curriculum content. Government functions previously scattered among several departments have been brought together under a new department of education, created in 1964. The new department took upon itself the task of completely reorganizing education in the province, introducing new policies and practices, many of them on the recommendation of the Royal Commission on Education, established in 1961 under the chairmanship of Monsignor Alphonse-Marie Parent. The assessment of resources required to meet present and future needs was seen as one of the prime tasks; a directorate of planning was set up and newly created regional school commissions were assigned planning functions. It was evident that Quebec was behind most other provinces in the provision of education for a technological age, and so the early concern has been with the expansion of facilities for relating the educational process to the world of work—the building of school plant, the establishment of consultative committees with the trades and professions, and the promotion of guidance and counselling in the schools.

Regulations have been announced providing for the introduction of a six-year elementary program, in general with promotion according to age, and a five-year secondary course with a highly diversified curriculum and a subject-promotion scheme. Pre-university and professional education is to be offered for a further two and sometimes three years at special institutes to be established for the purpose. Other major changes involve the departmental examinations system, teacher training, the establishment of regional offices of the department, and many financial provisions, including arrangements with private schools for the payment of fees and increased availability of bursaries and scholarships.

Newfoundland.—The topographical and economic circumstances of the Island influenced the development of education as did pockets of settlers establishing themselves in outposts which were relatively self-sufficient. Active leadership of the churches and homogeneity of the village populations provided a minimum of overlapping of denominations

except in a few industrial areas or the larger cities. A Royal Commission is considering the efficiency of the present organization with a view to increasing the education level of the Island's population.

The present system is predominantly denominational although there are amalgamated and community schools operated by the Department of Education. The schools are administered on a local basis by the five largest denominational groups—Roman Catholic, Anglican, United Church, Salvation Army and Pentecostal Mission. These operate under five superintendents, each in charge of the schools of his faith, and a member of the Department. Local boards, including the local clergymen as members, select teachers, pay salaries from government grants and look after the school property. All schools follow the provincial course of study and examinations, scholarships and diplomas are determined by an interdenominational body representing the major denominations and the Department.

Education in the Yukon and Northwest Territories.—In the Yukon Territory, the school system is operated by the Territorial Government through a superintendent and staff at Whitehorse responsible to the Commissioner of the Territory who, in turn, receives instructions from the Minister of Indian Affairs and Northern Development in Ottawa. The Education Division of the Northern Administration Branch of the Department of Indian Affairs and Northern Development offers advice on education policy to the Minister and Territorial authorities. All schools, both public and separate, with the exception of the Carcross Indian Residential School (operated by the Department in co-operation with the Territorial Government) and St. Mary's School (a quasi-private school operated by the Roman Catholic Church in Dawson) come under the direct ownership and operation of the Government of the Yukon Territory. Although there is provision for three types of schools in the Yukon—public, separate and Indian—most of the Indian children attend either the public or the separate schools. In 1965, the population was 15,000 of whom 2,400 were Indians. By choice, the schools of the Yukon follow the British Columbia education curricula.

In the Northwest Territories (the Districts of Mackenzie, Franklin and Keewatin) the school system is operated by the Education Division of the Northern Administration Branch of the Department of Indian Affairs and Northern Development by agreement with the Government of the Northwest Territories. The Federal Government, as the operating agency, finances school operation and receives from the Territorial Government the pupil cost for pupils who are neither Indian nor Eskimo. Enrolment for the 1966-67 term included 3,340 Eskimos, 1,371 Indians and 3,081 others, a total of 7,792 in the Northwest Territories and Arctic Quebec combined. Yellowknife public and separate school districts and Hay River separate school district are financed partly by local taxation and partly through grants-in-aid from the Federal and Northwest Territorial Governments. Inspection and supervisory services are provided by the Education Division. Alberta education curricula, subject to increasing modifications, are prescribed for the schools of the Northwest Territories. Expansion is taking place in school accommodation and basic elementary and secondary education is being provided for all children in the Territories and for Eskimo children in northern Quebec, as well as vocational training for them and for young adults showing interest and special aptitude. The program, which is an integrated one for the children of all races in the North, provides for the construction of schools and student residences, curricula designed for a northern environment, bursaries and other student aids, and special vocational training projects appropriate to both local craftsmanship and mechanical trades in such fields as construction, transportation and mining. (See also pp. 218-221.)

Special Education

Interest is increasing in the education of exceptional children—those who deviate so far from the normal as to require special educational facilities. New types of special classes are sometimes started by parents of children with a common disability, who band together to provide help and show the need for such service, which is then taken over by public

bodies. Progress in providing such education varies from province to province. It is most commonly found in the city school systems; in rural areas there is usually little provision for the child who needs special attention, except for those who are admitted to residential institutions. There are six schools for the blind, 15 schools for the deaf and a number of training schools for mental defectives. Special classes are found in tuberculosis sanatoria, mental hospitals and reformatories. In many cities, there are classes for the hard-of-hearing, the partly blind and other physically and mentally handicapped children and a few for the highly gifted.

Teachers

All provinces require candidates for elementary school teacher certificates to have high school completion or better, with at least one year of professional training in a faculty of education or a teachers' college. The training usually consists of professional and academic courses, and some time spent in practice teaching. High school teachers are generally university graduates who have taken an additional year of professional training in a college of education, or who have graduated with a degree in education. The trend is for the government departments of education to give the universities responsibility for the training of elementary school teachers as well as secondary school teachers. In Newfoundland, Prince Edward Island, Manitoba, Alberta and British Columbia all teacher training is conducted at the university, where three or four different courses leading to a degree are provided. About three quarters of the time is devoted to academic courses in arts and science and the remainder to professional courses. In some of the other provinces, close contact is maintained between teacher training college and university.

In 1965-66 there were 85 normal schools and teachers' colleges and 28 faculties or colleges of education engaged in teacher training with a total enrolment of over 32,000. In the same year there were 202,000 full-time teachers in the public elementary and secondary schools throughout the 10 provinces and 11,000 in the private schools.

Most teachers in these schools are paid according to a local salary schedule based on years of training and experience; they contribute to a provincial superannuation scheme and are members of a provincial professional organization. In 1965-66 about 66 p.c. of them were women, of whom a little more than half were married. The median salary of all teachers and principals in the eight provinces other than Quebec and Saskatchewan was \$5,215, an increase of 5.3 p.c. over the previous year. Apart from teachers in Quebec concerning whom adequate data were not available, about 13 p.c. of those in elementary schools and about 73 p.c. of those in secondary schools had university degrees.

Higher Education

Out of the two distinct cultures upon which the Canadian nation is founded have arisen two somewhat different systems of higher education. One, originally patterned on the French system before the secularization of higher education in France with the majority of the institutions under control of Catholic orders or groups, has in recent years adapted more and more to North American traditions but still retains distinctively French characteristics. The other was originally designed more according to English, Scottish and United States practices, instruction being given in English and controlled by a variety of groups—religious denominations, governments and private non-denominational bodies. Institutions comprising a third small group and giving instruction to both English-speaking and French-speaking students are operated or controlled mainly by Catholic groups, although the first such bilingual institution to be established—the University of Ottawa—was reorganized in 1965 under a non-denominational board of governors.

Large universities, with numerous faculties and provision for graduate study in many fields, are comparatively recent phenomena. Until the middle of the nineteenth century, higher education in Canada included little more than arts and theological training. From that time, more instruction in science and certain professional fields was gradually intro-



Scarborough University, just east of Toronto, is one of the thirteen new universities established across Canada within the past twenty years. These new university buildings and those added to older campuses are generally avant-garde in structure, with a forward-looking active aspect very different from the quiet staid appearance of university buildings constructed in previous decades.



The Old Arts Building of the University of New Brunswick, erected during 1825-28, is the oldest university building still in use in Canada. It is now surrounded by twenty-six permanent buildings and accommodates the university administrative offices.

duced. Graduate studies, to judge by the number of earned doctorates, did not acquire numerical importance until after 1920. Only for the past 20 years or so have more than 100 earned doctorates been granted annually.

Civil legislation regarding the establishment of new institutions, or changes in existing ones, is usually enacted by provincial legislatures, except for federal military colleges and a few institutions originally established by Act of the Canadian Parliament. Once an institution is legally chartered, control is vested in its governing body, the membership of which is indicated in the charter. The line of authority runs from the board of governors through the president (or *recteur*) to the senate and deans and the faculty as a whole.

The composition of the board of governors varies according to the type of institution. Provincial universities normally have government representation; church-related institutions have clergymen. Nearly all boards have either direct representation from the business community, alumni associations and other organizations, or are advised by these groups through advisory boards or committees. The size of the board varies from a very few to over forty. It has ultimate control of the university and normally reserves to itself complete financial powers, including the appointment of the president and most other staff. On occasion there will be faculty representation on the board and recently there have been attempts on the part of faculty groups of many institutions to obtain greater representation on the boards of governors. Responsibility for academic affairs is usually delegated to the senate. Composed mainly of faculty members, although there may also be alumni and representatives of non-academic groups included, it is responsible for admission, courses, discipline and the awarding of degrees.

Although there are variations, most students enter a university or the *cours collégial* of a *collège classique* after the completion of from 11 to 13 years of elementary and secondary schooling. In from three to five years, courses of instruction lead to a bachelor's degree in arts, pure science and such professional fields as engineering, business administration, agriculture and education. Courses in law, theology, dentistry, medicine and some other fields are longer—usually requiring for admission completion of part or all of a first-degree course in arts or science. For those pursuing graduate studies and research, the second degree is normally the master's or *licence*—at least one year beyond the first degree—and the third is the doctorate, normally requiring at least two additional years beyond the second degree.

There are about 400 institutions of higher education in Canada, of which about 50 have degree-granting powers (not including about a score that confer degrees in theology only). Full-time enrolment in the fall of 1966 was 234,000, a 13.7 p.c. rise over the previous year. The tremendous increase in demand for university places in recent years has resulted in a rapidly intensifying crisis in the financing of higher education, and a commission under the chairmanship of Dean Vincent Bladen of the University of Toronto was set up in 1963 by the then Canadian Universities Foundation, now the Association of Universities and Colleges of Canada, to study the financing of higher education in Canada. The Commission presented its report in the fall of 1965; among its recommendations were many referring to increased federal support for the universities. The current financing of universities is discussed at pp. 378-379.

In addition to the full-time university-grade enrolment, almost as many students are enrolled at the pre-matriculation level or are taking university-grade courses on a part-time basis, whether in the evenings, during summer session or by correspondence. The numbers of graduates in most faculties for the academic years ended 1965-67 are given in Table 10, p. 377.

Adult Education

A variety of opportunities is provided to adults for further academic, vocational and cultural experiences beyond the regular full-time school system for young people. Each province has developed its own programs, operated mainly by local school boards and provincial universities and supplemented by independent universities and private organiza-

tions. The Federal Government sponsors some adult education programs and provides grants-in-aid to the province for others. Co-ordination of these programs is secured through voluntary associations at national and provincial levels.

In 1964-65, total course enrolment in adult education (as defined by UNESCO) was nearly 3,000,000. Two thirds of the enrolment was in professional and vocational training, including university-sponsored refresher courses and technical, trade, agricultural and business courses, under various auspices. Another 13 p.c. was in health and social education courses, including courses in marriage preparation, citizenship training, first-aid, water safety, child care, nutrition, and courses designed to assist in the treatment or prevention of specific diseases. Academic courses leading to a high school diploma or university degree accounted for nearly 11 p.c. of the total enrolment and fine arts and other cultural subjects for the remainder.

Many public and private institutions and organizations also sponsor informal public lectures, film showings, guided tours, musical and dramatic performances and similar activities of an educational nature for adults. Workshops, conferences and residential adult education, as well as regular courses, help to prepare those who staff these activities.

How Education Costs are Met

In 1964 about 8 p.c. of Canada's total national income was spent on formal education. Over 20 p.c. of all municipal, provincial and federal revenue went for education and of the amount so spent, the municipalities provided 32 p.c. and the provinces 46 p.c.

As stated on p. 355, the actual operation of public elementary and secondary schools is in the hands of the local elected or appointed school boards which determine the budgets and therefore the amount of taxes required for school purposes. In most cases, these taxes are levied and collected for the boards by the municipalities; however, in those areas where there is no municipal organization the school boards have the power to levy and collect taxes for school purposes. At present, local governments provide 51 p.c. of the cost of operating the public schools, provincial grants provide 47 p.c. and the remainder is obtained from various other sources. Except in Newfoundland, fees are almost non-existent. Four provinces—British Columbia, Alberta, Manitoba and Nova Scotia—pay operating grants on an equalization formula and thus ensure at least a minimum level of education throughout the province; the standard is determined either in terms of so much per pupil, or from an established salary scale for teachers with a prescribed teacher-pupil ratio, or by some combination of these.

In Newfoundland where municipal organization scarcely exists outside certain larger centres, there are three school-tax areas (centres). Consequently only about 1.2 p.c. of school revenue is provided by local taxation: the province provides about 87 p.c. and most of the remainder is paid by parents in the form of fees. In Prince Edward Island where there is no municipal organization outside of the cities of Charlottetown and Summerside, the school boards levy and collect property and poll taxes but the province provides about two thirds of the operating costs. Ontario and Saskatchewan make use of various equalization and incentive grants and New Brunswick uses a combination of a basic grant per pupil and special grants. Most provinces provide grants for school buildings and equipment, establish loan funds, and guarantee debentures for school purposes and assist in selling them.

In 1965-66, universities and colleges received 60 p.c. of their current operating funds from provincial governments and the Federal Government, 26 p.c. from fees, 2 p.c. from endowments and gifts and 12 p.c. from a variety of other sources. Private schools and colleges are normally supported by student fees, endowment income, and gifts and support from sponsoring bodies.

Trade and Technical Education and Training

Increasing use of automated processes in business and industry is resulting in a shrinking market for unskilled and semi-skilled workers. Early school dropouts are finding it

increasingly difficult to find suitable employment and many are now trying to acquire in their adult years the general education or training in the skilled trades that they missed in their youth. Those persons still in the regular school system are tending to remain longer and go farther in the system, partly because of the changing attitudes of society toward education and partly for economic reasons.

Hand in hand with this growing demand for better educational facilities, educators are striving to provide comprehensive programs at all levels to meet the needs not only of the university-bound but also of the great majority who require adequate preparation for early entry into the labour force. It is now accepted that vocational education for adults as well as for youths is a public responsibility which must be provided, as needed, throughout man's working life. Education of this nature is of national concern and has a direct impact upon material prosperity, the national economy and the standard of living.

The pattern of vocational education in Canada varies from province to province and there are variations within the provinces. However, there are three basic types of institute offering vocational education—secondary schools, trade schools and post-secondary institutes of technology. Many municipal school boards provide vocational courses as part of the regular secondary school program in technical or composite-type schools. Students in these schools get some general vocational training or training in certain specific fields, such as typing or auto-mechanics, along with instruction in general academic or cultural subjects.

Trade schools, on the other hand, are open only to those who have passed the provincial school-leaving age and have left the regular school system. These schools offer specialized training and their purpose is to develop competent tradesmen. Courses at the trade level do not usually require high school graduation; the grade level demanded, which varies according to province or trade, ranges from grade 8 to grade 12.

The third type, the institutes of technology, operate at a higher level of training. Enrolment in the institutes presupposes high school graduation or at least high school standing in such relevant subjects as mathematics and the sciences. Graduates from institutes of technology are awarded diplomas of applied arts or diplomas of technology and form an essential link between professional engineers or administrators on the one hand and qualified craftsmen on the other. Most of the institutes of technology and trade schools across Canada are provincially operated.

In addition to the vocational education and training provided by these three types of publicly operated schools, many private business colleges and trade schools offer a wide variety of business, trade and technical courses, some through correspondence. Vocational education is also carried out under a system of apprenticeship training. Such training is given mainly on the job, with classes taken at the trade schools either during the evening or on a full-time basis during the day for periods ranging from three to 10 weeks a year.

During the past six years under the Technical and Vocational Training Agreement the Federal Government shared provincial costs for training in secondary, pre-employment, occupational, post-secondary and adult programs provided that the provincial programs met the conditions of the federal-provincial agreement; however, the shared-cost agreements expired on Mar. 31, 1967 and were not renewed. Under new legislation, the Adult Occupational Training Act, the Federal Government takes full rather than partial responsibility for financing the cost of training adults who are or should be in the labour force. The cost of providing primary, secondary and post-secondary education remains a provincial responsibility.

If, in the opinion of a Manpower Counsellor, it is in the best interest of the individual and of the economy for an adult to undertake training or retraining, it will be purchased by the Federal Government from a public or private training institution or from industry.

The new program also provides for the payment of allowances to persons who have adult economic responsibilities to enable them to take training but it intentionally avoids the payment of such allowances to youths whose education should normally be provided by the province. Evidence has accumulated to suggest that providing allowances of \$35 to \$90 per week could otherwise encourage young people to drop out of school and yet these rates are quite necessary to replace the income of an adult with economic responsibilities. Trainees who have been three years in the labour force, which includes periods during which employment was being sought, or those who have dependants to support, are paid these allowances.

The federal-provincial Capital Assistance Program has been extended for the benefit of those provinces which were not able to take full advantage of the previous program. This will allow for a continued expansion of facilities to carry out a variety of vocational programs. During the period Apr. 1, 1961 to Mar. 31, 1967, projects valued at nearly \$1,477,000,000 were approved, which, when all completed, will provide a total of 439,952 new places for students, most of whom will be enrolled in two- or three-year courses. These included the construction of 540 new high schools with facilities for vocational training plus major additions to 115 such schools; construction of 83 new trade schools and enlargement of 111 existing trade schools; and construction of 19 new technical institutes plus major additions to 20 existing institutes. In addition, 150 minor projects and four special equipment projects were undertaken involving extension to existing schools. The additional facilities are summarized by province as follows:—

<i>Province or Territory</i>	<i>New Schools</i>	<i>Major Projects Involving Additions to Existing Schools</i>	<i>Minor Projects Involving Additions to Existing Schools</i>	<i>New Student Places</i>
		No.	No.	
Newfoundland.....	13	1	4	3,870
Prince Edward Island.....	2	—	6	1,486
Nova Scotia.....	20	8	2	6,013
New Brunswick.....	7	3	32	3,695
Quebec.....	149	75	6	113,228
Ontario.....	335	83	40	219,996
Manitoba.....	4	19	49	6,752
Saskatchewan.....	13	7	1	12,634
Alberta.....	57	13	6	35,142
British Columbia.....	41	39	4	36,624
Yukon Territory.....	1	1	—	482
Northwest Territories.....	—	1	—	30
TOTALS.....	642	250	150	439,952

In addition to assisting financially with the provision of physical facilities for training, the Federal Government shares in the operating costs of the various programs conducted under the Technical and Vocational Training Agreements, including the Apprenticeship Training Agreement. These programs are closely correlated with the common objectives of training the country's labour force at all levels below university and in all fields.

Of particular concern is the need to up-grade both the educational and vocational competence levels of those already in the labour force. The Federal Government undertakes to share the expenditures made by employers in developing and operating approved training

programs for their employees, particularly basic training for skill development, re-training of technologically displaced persons, and apprenticeship training; higher level and other training projects are also encouraged. A Manpower Consultative Service has been established to assist industry with problems encountered in the fields of manpower training and employment and to take part in the manpower research program.

Federal Contributions to Education

Some 50 Federal Government departments and agencies contribute to education in one way or another. As stated on p. 355, the Federal Government has no responsibility for the organization and administration of education. It has, however, a vital interest in the general level of education and skills of the population and the extent of the scientific research carried on in Canada, realizing the profound effect these factors exercise upon the development of the national economy. Accordingly, the most important educational programs financed by the federal treasury are: (1) various provincial schemes of vocational training; (2) operating grants to universities and colleges computed in 1966-67 at approximately \$5 per capita of provincial population and distributed to individual institutions according to their full-time enrolment by the Association of Universities and Colleges of Canada; and (3) grants for specific research projects undertaken by individual professors and other research personnel at universities. In the year ended Mar. 31, 1967, the federal treasury spent slightly more than \$221,000,000 on provincial vocational training programs, almost \$71,000,000 on operating grants to universities, and over \$42,000,000 on grants for research in universities, a total of more than \$334,000,000 on these three programs alone.

As a result of the federal-provincial conference of October 1966, the Federal Government undertook to provide increased support to education. Recognizing that education is a provincial responsibility, it decided to discontinue payment directly to universities of operating grants, and to expand its support beyond university education and include in its program all, or almost all, post-secondary education, i.e., the educational institutions and courses requiring for admission at least junior matriculation, or its equivalent, in each province. The provinces have been offered the choice of either a federal grant amounting to \$15 per head of population, or 50 p.c. of operating costs of post-secondary education, whichever is the greater. Implementing this proposal, the Parliament passed, in March 1967, the Federal-Provincial Fiscal Arrangements Act, 1967, dealing with this program, and placed the responsibility for its administration upon the Department of the Secretary of State. Under the terms of this Act certain percentages of federal revenues plus required cash will be transferred by the federal treasury to the provinces, commencing with the 1967-68 fiscal year, and will continue for five years. It is estimated that the financial resources so transferred to the provinces in 1967-68 will amount to \$345,000,000, and will be disbursed by the provincial governments at their discretion.

The student loan program is operated under the Canada Student Loans Act (SC 1964, c. 24), assented to July 28, 1964, when \$40,000,000 was set aside to enable full-time students to borrow up to \$1,000 annually, interest-free for five years—the \$5,000 or less to be repaid with interest commencing six months after the student has graduated. Provision is made for the allocated amount to be increased year by year in proportion to the number of persons 18-24 years of age in the population. The purpose of the loan plan is to assist those students who, for financial reasons, would otherwise be prevented from getting a post-secondary education or would not be able to devote full time to their studies. These loans may be made only on the basis of certificates of eligibility issued by the participating province through the university or institute of technology concerned. There is no upper or lower age limit for eligibility. The loan scheme is operated by the chartered banks, the

Federal Government guaranteeing the loans and paying the interest while the student is attending college. All provinces except Quebec participate; Quebec offers its own student assistance program for the benefit of Quebec residents.

The Act provides for basic allocations for each province, establishing the limit to which each may authorize loans under the Act. It also provides for supplementary allocations that may be used to compensate for differences in relative demand as between provinces, based on provincial population in the 18-24 year age group. The basic allocations for the year 1966-67 for participating provinces totalled \$41,700,000, in addition to which there was authority for discretionary allocations up to \$12,200,000, making a total maximum of \$53,900,000 authorized under the Act. Loans actually authorized amounted to \$41,200,000.

Under the Technical and Vocational Assistance Act (SC 1960-61, c. 6), the Federal Government, until 1975, contributes 75 p.c. of the total spent by a province on buildings and equipment for approved projects as determined under the federal-provincial agreements, including high school vocational classes, trade schools, institutes of technology, organized training on-the-job, apprenticeship, rehabilitation, management education, etc. (see also p. 363).

As mentioned on p. 364, the value of provincial projects approved by the federal authorities under the capital assistance program during the period Apr. 1, 1961 to Mar. 31, 1967 totalled nearly \$1,477,000,000, the federal contribution being over \$792,000,000 when all projects are completed. In the same period the actual cash payments made by the federal treasury to the provinces amounted to almost \$592,500,000. Beginning Apr. 1, 1967, the limit of this assistance on provincial capital projects was increased from \$480 per capita of provincial population aged 15 to 19 years, as at the 1961 Census, to \$800 per capita. Based on that population of 1,432,559, the provincial and territorial governments may be entitled to the federal assistance up to almost \$553,600,000.

The Federal Government through the Canada Council in 1957 provided an amount of \$100,000,000, half of which was to be distributed among the universities for specified building and equipment purposes, similar to the distribution of grants. Interest from the remaining \$50,000,000 was to be used to assist in the development of the arts, humanities and social sciences mainly through scholarships (see pp. 395-396).

Other contributions are more indirect and include scholarships, research grants and reports or services of value to the schools. Research grants are made by the National Research Council, the Defence Research Board, the Department of National Health and Welfare, the Department of Manpower and Immigration and other agencies. Some Departments such as Agriculture, Health and Welfare, etc., provide materials and publications of value in the school programs, and the National Museum, the National Gallery, the National Film Board and the Canadian Broadcasting Corporation contribute directly or indirectly to various school programs (see pp. 391-394).

More directly, the Federal Government is responsible for the education of the Eskimos, Indians and white persons in the Territories (see p. 359), the Indians on the reserves, prisoners in penitentiaries, members of the Armed Services and their dependants and in-service training for permanent personnel. It also assists in citizenship training and other out-of-school informal education activities.

External Aid.—Some 13,000 full-time university students, a large proportion of them in the graduate schools, come to Canada each year from many countries; the largest number are from the United States although the number from Commonwealth and other countries is increasing very rapidly. The external enrolment in 1966 represented about 5.5 p.c. of the total enrolment. The number of such students is about equal to the number of Canadians studying abroad. (See Table 9, p. 376.)

Canada's External Aid Office is responsible for the operation and administration of external assistance programs, including educational assistance to Commonwealth and other countries. In the academic year 1966-67, such assistance consisted of 542 teachers including teacher college personnel, 123 university staff members sent out individually or in teams, and 342 (calendar year 1966) technical advisers in vocational education, health and welfare, government administration and other areas. More than 6,000 persons have been trained in Canada since 1950; the number enrolled in 1966-67 was 2,964, compared with 2,538 in the previous year. The objective of this training is the development of an indigenous training capability in the emerging countries and persons trained in Canada are expected to return to their homelands to convey their skills to others.

From 1950 to 1967 Canada's expenditures abroad on capital projects in aid of education amounted to about \$17,000,000. Capital assistance includes the building and equipping of educational institutions; major projects include Canada Hall, a residence for the University of the West Indies in Trinidad; technical equipment to schools in Malaysia and Tanzania; and audio-visual equipment, handicraft supplies and other teaching aids to various countries.

In 1966-67, under the Commonwealth Scholarship and Fellowship Plan which began in 1960, some 250 Commonwealth students were studying in Canada (see also p. 186).

Canada has a number of voluntary agencies interested in aiding students from other countries, several of which receive some assistance from the Federal Government.

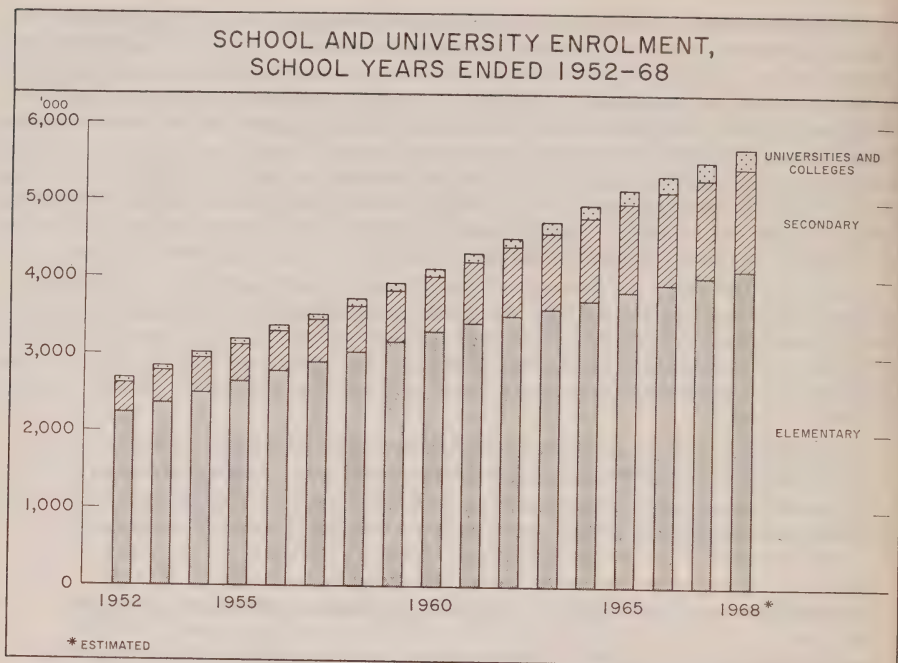
Section 3.—Statistics of Schools, Universities and Colleges

Elementary and secondary schools may be classified as either publicly controlled or private. The publicly controlled schools include: the public and separate schools under local school boards—by far the most numerous group; provincial schools which at this level are limited mainly to trade schools, correspondence courses, and special schools for the blind and deaf; and federal schools for Indians, for children in the Northwest Territories, and for the children of members of the Armed Forces overseas. Private schools may be academic, business (commercial), trade, technical, correspondence or even a combination of these.

Institutions of higher education may be provincial, church, independent universities and colleges, or federal military colleges. In addition there are institutes of technology, teachers' colleges, theological institutions and schools for such specialized fields as nursing, agriculture, paper-making, fisheries, graphic and fine arts, languages, etc. Some of these are provincial and some private.

Most organized classes for adults operate under the auspices of universities, colleges, local school boards, churches or community organizations.

Table 1 shows full-time enrolment at all levels each year for the period 1957-58 to 1966-67 and Table 2 shows the number of schools, teachers and pupils for all types of education institutions, classified by province, for the school year 1965-66. In all types of schools the number of pupils has increased each year over that period. The increase was first noticed at the elementary level some six years after the birth rate began to rise during the war years. About eight years later the children born during the War were entering high school and four years later they began entering university. The number of teachers is rather closely related to the number of students although the trend is toward larger classes. On the other hand, the number of schools has remained fairly constant, the increase caused by the construction of new and larger schools in urban areas being counterbalanced by the closing of many one-room rural schools.



**1.—Full-Time Enrolment in Elementary and Secondary Schools, and in
Universities and Colleges, School Years 1957-58 to 1966-67**

NOTE.—The figures for elementary and secondary grades given in this table do not agree with those published in previous editions of the Year Book because of certain differences in classification.

School Year	Elementary and Secondary Schools (Publicly Controlled, Private and Federal)			Universities and Colleges
	Elementary Grades ¹	Secondary Grades	Total	
	No.	No.	No.	No.
1957-58.....	3,030,327	602,807	3,633,134	86,754
1958-59.....	3,164,460	662,229	3,826,689	94,994
1959-60.....	3,293,676	715,218	4,008,894	101,934
1960-61.....	3,412,166	789,114	4,201,280	113,864
1961-62.....	3,514,226	892,094	4,406,320	128,894
1962-63.....	3,604,251	983,699	4,587,950	141,388
1963-64.....	3,709,723 ²	1,071,089 ²	4,780,812 ²	158,388
1964-65.....	3,822,649 ²	1,145,532 ²	4,968,181 ²	178,238
1965-66.....	3,922,337 ²	1,205,386 ²	5,127,723 ²	205,888
1966-67 ³	4,020,341	1,261,122	5,281,463	234,000

¹ From kindergarten to and including grade 8. Includes preliminary figures for all provinces.

² Includes preliminary figures for Quebec.

³ In-

2.—Schools, Teachers and Enrolment for All Types of Education Institutions, by Province, School Year 1965-66

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	No.	No.	No.	No.	No.	No.
Elementary and Secondary Education—						
Public and Separate—						
Schools.....	1,216	405	959	1,073	4,550 ^p	6,206
Teachers.....	5,545	1,209	7,897	6,812	62,200 ^p	66,626
Pupils.....	146,503	27,854	199,856	165,228	1,360,600 ^p	1,738,781
Overseas (DND)—						
Schools.....	...	...	...	...	...	...
Teachers.....	...	...	...	...	...	...
Pupils.....	...	...	...	...	...	...
Indian— ¹						
Schools.....	—	1	6	8	26	96
Teachers.....	—	2	29	25	151	294
Pupils.....	—	50	744	644	3,415	6,572
Blind—						
Schools.....	—	—	1	—	3	1
Teachers.....	—	—	18	—	43	35
Pupils (home province).....	34	4	82	35	283	193
Deaf—						
Schools.....	1	1	1	—	5	2
Teachers.....	16	2	43	—	157	105
Pupils (home province).....	105	20	159	121	1,030	772
Private—						
Schools.....	3	2	21	12	810 ^p	230
Teachers.....	30	21	215	85	6,300 ^p	1,991
Pupils.....	444	511	5,362	1,654	96,200 ^p	45,554
Higher Education—						
Institutions.....	3	2	16	11	231	68
Students (full-time university grade).....	3,168	924	9,457	6,371	67,316	58,983
Teacher-Training—						
Teachers' Colleges—						
Institutions.....	—	—	1	1	72	13
Teachers.....	—	—	38	52	1,040	281
Students.....	—	—	555	1,070	13,080	5,913
Faculties of Education—						
Faculties ²	1	2	5	3	4	3
Teachers.....	28	5	20	19	150	145
Students ²	1,486	135	382	308	2,296	1,051
Vocational Education—						
Enrolment—						
Publicly sponsored vocational courses.....	4,810	624	4,021	3,950	40,791 {	59,016
Trade courses (apprentices) ⁴	787	238	1,653	3,991		5,324
Vocational high school courses..	290	773	2,196	6,635		166,902
Post-secondary courses.....	381	—	112	319		6,468
Private business schools (1964-65).....	5	5	774	608	8,638	5,357
Private trade schools (1964-65)...	—	—	243	5	9,497	3,743
Adult Education—						
Part-Time Enrolment—						
Universities (1964-65).....	3,273	1,143	11,730	6,997	83,586	89,630
Provincial government departments (1964-65).....	4,620	1,793	11,298	21,386	297,039	797,935
Federal Government departments (1964-65).....	8,685	233	28,203	12,972	794	243,968
Health departments (1964-65)...	2,187	665	4,218	5,247	56,217	75,922
Other (1964-65).....						

For footnotes, see end of table, p. 370.

**2.—Schools, Teachers and Enrolment for All Types of Education Institutions,
by Province, School Year 1965-66—concluded**

Item	Man.	Sask.	Alta.	B.C.	Y.T. and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Elementary and Secondary Education—						
Public and Separate—						
Schools.....	1,510	1,365 ^a	1,199	1,383	87	19,953
Teachers.....	9,232	10,515 ^a	15,518	15,759	542	201,855
Pupils.....	222,249	238,320	362,159	420,847	10,360	4,892,757
Overseas (DND)—						
Schools.....	...	...	...	...	...	18
Teachers.....	...	...	...	...	...	337
Pupils.....	...	...	...	...	...	7,800
Indian— ¹						
Schools.....	71	67	29	71	1	376
Teachers.....	248	198	195	207	4	1,353
Pupils.....	6,317	4,802	3,998	5,354	107	32,003
Blind—						
Schools.....	—	—	—	1	—	6
Teachers.....	—	—	—	12	—	108
Pupils (home province).....	19	24	24	96	2	796
Deaf—						
Schools.....	2	1	1	1	—	15
Teachers.....	24	22	23	24	—	416
Pupils (home province).....	154	149	114	225	9	2,858
Private—						
Schools.....	55	16	38	140	—	1,327
Teachers.....	434	135	283	1,074	—	10,568
Pupils.....	10,576	2,439	6,570	25,853	—	195,163
Higher Education—						
Institutions.....	12	17	14	12	—	386
Students (full-time university grade).....	11,069	10,707	14,749	23,144	—	205,888
Teacher-Training—						
Teachers' Colleges—						
Institutions.....	—	—	—	—	—	87
Teachers.....	—	—	—	—	—	1,411
Students.....	—	—	—	—	—	20,618
Faculties of Education—						
Faculties ²	2	2	2	4	—	28
Teachers.....	48	97	138	182	—	832
Students ²	988	2,744	4,375	3,884	—	11,549
Vocational Education—						
Enrolment—						
Publicly sponsored vocational courses ³	8,603	6,516	7,993	12,262	755	175,637
Trade courses (apprentices) ⁴	1,158	1,501	6,153	5,491	—	215,551
Vocational high school courses.....	5,426	4,291	12,196	15,420	422	21,741
Post-secondary courses.....	755	534	2,652	892	—	21,426
Private business schools (1964-65).....	1,288	1,371	1,584	1,806	—	17,561
Private trade schools (1964-65).....	726	957	1,178	1,217	—	
Adult Education—⁵						
Part-Time Enrolment—						
Universities (1964-65).....	11,791	24,482	41,530	31,428	—	305,590
Provincial government departments (1964-65).....	105,916	276,703	126,037	165,328	175	1,808,230
Federal Government departments (1964-65).....	38,161	1,050	13,728	21,132	—	177,589
Health departments (1964-65).....	8,796	15,701	15,889	20,021	—	368,926
Other (1964-65).....						209,952 ⁷

¹ Day, residential and hospital schools administered by the Federal Government. ² Also included with "Higher Education". ³ Under Programs 3, 4, 5, 6 and 8 of the federal-provincial agreements. ⁴ Includes indentured apprentices taking full-time, part-time and correspondence courses. ⁵ Included with Nova Scotia. ⁶ Includes enrolment in courses sponsored by public libraries, business colleges and trade schools, teacher-training institutions, museums and art galleries, wheat pools and industry. ⁷ Includes 5,089 enrolments in private trade schools, not distributed by province.

An attempt has been made to tabulate total expenditure on education, including formal education at all levels, vocational training of all types and also expenditure on cultural activities related to education such as adult night classes, fine arts and handicraft courses, and libraries, museums and art galleries. Such expenditure for the year 1964 is presented in Table 3, classified by source. Details of income of school boards for publicly controlled elementary and secondary schools for the years 1962-64 are given at pp. 374-375 and financial statistics for universities and colleges at pp. 378-380.

3.—Expenditure on Formal Education, Vocational Training and Related Cultural Activities, by Source of Funds, 1964

Type of Education	Local Taxation	Pro- vincial Govern- ments ¹	Federal Govern- ment	Fees	Other Sources	Total Expend- iture
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Formal Education—						
Elementary and Secondary—						
Public schools.....	902,062	923,392	55,543	8,006	25,203	1,914,206
Handicapped outside the public schools.....	191	10,763	—	234	360	11,548
Government correspondence schools.....	—	1,864	—	547	5	2,416
Reform schools.....	—	2,043	—	—	—	2,043
Indian and Eskimo education.....	—	—	43,443	—	—	43,443
Private schools.....	—	—	—	52,717	17,506	70,223
Totals, Elementary and Secondary.....	902,253	938,062	98,986	61,504	43,074	2,043,879
Teacher-training outside universities.....	—	21,660	3	952	152	22,767
Higher Education—						
Current operating expenditure.....	489	150,850	28,979	89,738	41,898	311,954
Plant expenditure from current funds.....	648	110,282	2,139	—	107,307	220,376
Research in universities.....	44	1,030	25,216	—	13,174	39,464
Defence colleges.....	—	—	8,000	—	—	8,000
Scholarships.....	—	12,081	10,337	—	42	22,460
Other.....	—	33	1,445	143	161	1,782
Totals, Higher Education.....	1,181	274,276	76,116	89,881	162,582	604,036
Undistributable expenditure.....	—	—	7,608	—	—	7,608
Totals, Formal Education.....	903,434	1,233,998	182,713	152,337	205,808	2,678,290
Vocational Training—						
Technician training.....	—	15,974	14,407	1,668	61	32,110
Apprenticeship.....	—	5,242	7,371	357	600	13,570
Trade training.....	—	19,690	28,722	975	627	50,014
Technical and vocational teachers.....	—	343	615	—	—	958
Unemployed.....	—	6,234	13,609	307	—	20,150
Handicapped.....	—	2,032	714	—	—	2,746
Health and welfare personnel.....	—	1,248	—	5	5	1,258
Inmates of reform institutions.....	—	284	545	—	—	829
Indians and Eskimos.....	—	—	6,003	—	—	6,003
Other vocational training costs.....	—	138	8,709	230	—	9,077
Provincial capital expenditures.....	—	19,193	2	—	29	19,222
Private business colleges.....	—	—	—	5,603	398	6,301
Totals, Vocational Training.....	—	70,378	80,695	9,445	1,720	162,238
Totals, Formal Education and Vocational Training.....	903,434	1,304,376	263,408	161,782	207,528	2,840,528
Cultural Activities—³						
Adult education, including night schools.....	—	1,689	487	7	9	2,192
Fine arts.....	—	3,208	1,461	72	21	4,762
Handicrafts.....	—	205	—	—	4	209
Libraries.....	21,056	6,754	1,936	—	1,879	31,625
Archives, museums and art galleries.....	—	5,871	1,368	10	5	7,254
National Film Board productions.....	—	—	1,610	—	—	1,610
Cultural societies—grants.....	—	510	89	24	—	623
UNESCO—grant.....	—	—	751	—	—	751
Totals, Cultural Activities.....	21,056	18,237	7,702	113	1,918	49,026

¹ Includes the Yukon and Northwest Territories.
included in above items.

² Capital grants from the Federal Government are
³ Limited to reported expenditures of public funds.

⁴ Includes capital costs
from current funds.

Subsection 1.—Elementary and Secondary Schools

Control.—As stated on p. 356, direct control and operation of public schools is by school boards, which operate under school laws and regulations. School boards may be boards of larger units, local boards within larger units or independent boards for rural schools, towns or cities, the members of which may be all elected, partly elected and partly appointed or all appointed; some schools are operated by trustees appointed by the province in lieu of a board. As their designations imply, private schools are administered by private organizations and federal schools by federal authorities.

Table 4 gives the number of active public school boards and school trustees in each province as at December 1966.

4.—Active School Boards and School Trustees, by Province, as at December 1966

Province or District	Boards of Larger Units	Local Boards within Larger Units	Independent Local Boards	Total Boards	School Boards Composed of Trustees who are—			School Trustees
					All Elected	Some Appointed Some Elected	All Appointed	
	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	270	—	—	270	—	—	270	2,760
Prince Edward Island.....	32	—	341	373	355	16	2	1,288
Nova Scotia.....	35	1,164	42	1,241	1,164	—	77	4,737
New Brunswick.....	14 ¹	383	39	436	397	9	30	1,949
Quebec—								
Roman Catholic.....	55	1,337	91	1,483	1,481	—	2	7,608
Protestant.....	16	53	141	210	150	60	—	994
Ontario.....	979	11 ¹	600	1,590	1,330	43	217	8,130
Manitoba.....	64	—	872	936	919	—	17	2,958
Saskatchewan.....	60	4,305	75	4,440	4,440	—	—	13,405
Alberta.....	61	—	142	203	203	—	—	900
British Columbia.....	83	—	4	87	87	—	—	552
Mackenzie District.....	—	—	3	3	3	—	—	11
Totals.....	1,669	7,253	2,350	11,272	10,529	128	615	45,292

¹ County Finance Boards which ceased to operate on Jan. 1, 1967.
Toronto Metropolitan Board.

² Boards of Education, all members of

Enrolment.—Table 5 shows enrolment of all elementary and secondary pupils in Canada and in Department of National Defence schools overseas, and classifies them by grade. Private schools and schools for Indian and Eskimo children are included in these figures. Enrolment in private schools accounted for 4 p.c. of the total 1965-66 enrolment at the elementary and secondary levels. Schools operated by Federal Government departments, that is, schools for Indian children, schools in the Territories and overseas schools for children of Service personnel, accounted for about 1 p.c. of the total.

School enrolment has been increasing in recent years much more rapidly than the general population. Total school enrolment in 1965-66 represented a 3.2-p.c. increase over the previous year. In comparison, the annual rates of increase in total school enrolment for the three previous years ranged from 4.0 p.c. to 4.2 p.c.; the country's population during the same period increased annually by amounts varying from 1.7 p.c. to 1.8 p.c.

5.—Enrolment in Publicly Controlled, Private and Federal Schools, by Grade, School Year 1965-66

Grade	New- foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec ¹	Ontario
	No.	No.	No.	No.	No.	No.
Kindergarten.....	7,680	75	18,508	36	42,541	130,644
Grade 1.....	15,543	2,947	18,012	17,483	150,164	172,243
Grade 2.....	14,571	2,659	17,926	16,779	147,095	158,695
Grade 3.....	15,164	2,842	18,700	16,986	146,802	152,420
Grade 4.....	14,947	2,704	18,198	16,468	145,296	143,910
Grade 5.....	14,627	2,755	18,452	16,839	140,994	143,453
Grade 6.....	13,976	2,509	17,759	15,788	134,650	139,388
Grade 7.....	13,441	2,556	18,278	15,697	117,297	136,271
Grade 8.....	11,938	2,455	16,039	13,312	125,412	126,518
Grade 9.....	10,905	2,272	14,218	12,247	108,400	125,846
Grade 10.....	7,991	1,985	12,221	10,423	83,600	108,133
Grade 11.....	5,750	1,394	10,183	8,393	69,600	89,817
Grade 12.....	45	1,083	5,461	6,204	13,300	79,371
Grade 13.....	...	...	...	38	600	41,868
Auxiliary.....	77	...	1,167	343	19,554	25,848
Special.....	287	97	840	490	14,900	16,182
Totals.....	146,947	23,415	205,962	167,526	1,460,215	1,790,907

Grade	Manitoba	Saskat- chewan	Alberta	British Columbia	Y.T. and N.W.T. ¹	DND Schools Overseas	Canada
	No.	No.	No.	No.	No.	No.	No.
Kindergarten.....	7,114	3,842	900	14,339	537	822	227,038
Grade 1.....	23,916	24,725	39,094	46,359	1,835	1,116	513,477
Grade 2.....	21,798	23,102	37,497	42,644	1,441	559	485,466
Grade 3.....	21,654	22,417	35,609	40,812	1,279	861	475,546
Grade 4.....	20,952	22,086	34,394	39,518	1,125	804	460,402
Grade 5.....	21,595	22,325	34,569	38,497	944	608	455,658
Grade 6.....	20,728	21,864	33,065	37,572	767	519	438,525
Grade 7.....	20,668	20,887	32,067	36,207	600	474	414,443
Grade 8.....	18,697	19,601	29,586	36,341	472	378	400,749
Grade 9.....	17,763	18,794	28,024	33,379	426	383	372,657
Grade 10.....	15,756	16,969	23,079	30,403	351	306	311,225
Grade 11.....	14,673	13,857	20,007	24,884	214	255	259,927
Grade 12.....	11,705	12,895	23,870	21,978	155	173	176,245
Grade 13.....	...	...	...	2,535	14	114	45,169
Auxiliary.....	2,045	1,495	20	6,275	68	28	57,094
Special.....	78	702	106	271	239	...	34,192
Totals.....	239,142	245,561	372,727	452,054	10,467²	7,800	5,127,723

¹ Includes Ungava District of Quebec.² Total for Yukon Territory was 3,271 pupils.

Teaching Staffs.—Between the school years 1945-46 and 1965-66, the number of teachers in the publicly controlled schools of the ten provinces increased from 77,479 to 201,855, or 161 p.c. The number of men teachers increased by 295 p.c. and the number of women teachers by 120 p.c.

After moderate increases between 1946 and 1960, median experience of teachers declined over the following six years, a trend attributable to the large number of new teachers entering the profession. Because most of these new teachers have been employed in the cities, median experience there has declined rapidly from a high in 1946 of 16.7 years in eight provinces (excluding Quebec and Ontario) to a low in 1966 of 6.5 years in eight provinces (excluding Quebec and Saskatchewan). The median experience of all teachers did not show such a pronounced decline, ranging between 7.0 and 8.0 years up to 1960 and then declining to a new low of 6.7 years for eight provinces (excluding Quebec and Saskatchewan).

The median salary in 1966 for all teachers in eight provinces (excluding Quebec and Saskatchewan) was \$5,215, representing an increase of 299 p.c. over the median salary in 1946 of \$1,308, based on data from nine provinces (excluding Quebec). The rate of increase from one year to the next has fluctuated considerably, ranging from 16.8 p.c. between the school years ended in 1947 and 1948 to 2.4 p.c. between 1962 and 1963. The increase between 1964 and 1965 was 4.9 p.c. and that between 1965 and 1966 was 5.3 p.c.

6.—Teachers and Principals in Publicly Controlled Elementary and Secondary Schools, School Year 1965-66

Province	Number		Median Salary		Median Experience		University Graduates	
	Male	Female	Male	Female	Male	Female	Male	Female
TEACHING ELEMENTARY GRADES ¹								
			\$	\$	yrs.	yrs.	p.c.	p.c.
Newfoundland.....	1,204	3,124	2,970	2,933	2.9	3.7	10.1	3.2
Prince Edward Island.....	98	811	3,125	2,797	3.8	9.1	15.3	1.0
Nova Scotia.....	530	4,817	4,248	3,446	5.6	11.5	41.5	12.0
New Brunswick.....	453	4,122	3,775	3,200	4.1	9.1	24.3	4.1
Quebec.....	9,330	22,990	5,527	4,745	5.7	6.4	23.9	6.5
Ontario.....	1,438	4,655	4,141	3,906	5.6	7.0	16.1	6.9
Manitoba.....	1,438	4,655	4,141	3,906	5.6	7.0	16.1	6.9
Saskatchewan.....	1,535	6,392	6,045	4,996	6.8	9.9	46.3	12.4
Alberta.....	2,407	6,610	6,250	5,416	7.6	6.9	41.9	15.4
British Columbia.....								
TEACHING SECONDARY GRADES ²								
			\$	\$	yrs.	yrs.	p.c.	p.c.
Newfoundland.....	831	386	4,745	4,214	6.3	9.4	49.9	36.3
Prince Edward Island.....	140	160	4,458	3,737	4.7	10.1	50.7	32.5
Nova Scotia.....	1,337	1,213	5,469	5,031	7.4	11.4	66.9	56.2
New Brunswick.....	1,239	998	5,432	4,601	6.5	9.3	55.1	39.5
Quebec.....	14,440	6,860	7,792	6,787	5.6	4.3	79.7	84.4
Ontario.....	1,927	1,212	6,108	5,318	7.3	7.3	72.4	62.9
Manitoba.....								
Saskatchewan.....	3,499	2,011	7,170	6,125	7.7	10.2	73.4	55.6
Alberta.....	4,475	2,267	7,691	6,745	9.8	9.2	75.6	68.8
British Columbia.....								

¹ Comprises teachers and principals instructing or supervising elementary grades only, and those instructing or supervising both elementary and secondary grades in rural schools with five or fewer classes. Teachers and principals in Ontario are classified as elementary according to the provincial *Report of the Minister, 1965*. ² Comprises teachers and principals instructing or supervising secondary grades only, and those instructing or supervising both elementary and secondary grades in urban centres and in rural schools with six or more classes. Teachers and principals in Ontario are classified as secondary according to the provincial *Report of the Minister, 1965*.

Financial Support.—Table 7 shows details of the income of public school boards for the years 1962-64. In most provinces, local taxation is the most important source of revenue, followed by provincial government grants. In 1964, all other sources of income accounted for 2 p.c. of total current revenue. (See also p. 362.)

Not all provinces collect and publish figures for debenture indebtedness, although it is the usual practice in all provinces, except Newfoundland, for boards to finance new construction, at least in part, by issuing debentures. Provincial aid toward capital expenditures may take the form of a percentage of total cost, a fixed amount per classroom or assistance with debenture debt charges. Many provinces guarantee debentures issued by school boards and others assist in marketing them.

7.—Income of School Boards for Publicly Controlled Elementary and Secondary Schools, by Province, 1962-64

NOTE.—The receipts shown in this table do not include any amounts raised by loans or the sale of bonds or debentures as all revenue of this nature must be repaid ultimately with money raised by local taxation.

Province and Year	Income from—			Total Current Revenue	Debenture Indebtedness ¹
	Provincial Government Grants	Local Taxation	Other Sources		
	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....1962	16,621	272	2,233	19,126	..
1963	18,746	363	2,262	21,371	..
1964	20,790	455	2,671	23,916	..
Prince Edward Island.....1962	2,937	1,566	99	4,602	..
1963	3,502	2,149	46	5,697	..
1964	3,834	2,207	63	6,104	..
Nova Scotia.....1962	20,365	23,651	702	44,718	50,793
1963	21,299	24,740	523	46,562	55,104
1964	23,889	26,605	604	51,098	55,594
New Brunswick.....1962	10,330	22,482	321	33,133	25,377
1963	11,388	25,015	442	36,845	28,423
1964	10,940	27,062	356	38,358	28,514
Quebec.....1962	169,277	154,984	15,822	340,083	438,872
1963	197,678	190,398	18,195	406,271	485,737
1964	..	..	..	..	..
Ontario.....1962	204,548	316,948	27,486	548,982	682,626
1963	233,689	345,371	20,011	599,071	732,917
1964	298,316	368,747	19,057	686,120	758,427
Manitoba.....1962	27,301	38,104	126	65,531	63,292
1963	28,527	41,389	44	69,960	71,252
1964	30,132	43,836	378	74,346	74,214
Saskatchewan.....1962	33,300	43,246	1,483	78,029	49,547
1963	37,449	46,156	1,624	85,229	55,750
1964	38,437	49,150	1,772	89,359	61,154
Alberta.....1962	75,483	67,779	1,491	144,753	135,376
1963	76,068	71,036	1,617	148,721	152,779
1964	70,925	76,243	1,442	148,610	160,491
British Columbia.....1962	62,600	69,092	2,655	134,347	..
1963	68,698	77,692	2,720	149,110	..
1964	71,718	88,286	3,990	163,994	..

¹ Net figures, after deduction of sinking funds.

Subsection 2.—Universities and Colleges

Institutions.—An institution of higher education in Canada is generally defined as one that offers one or more years of work beyond the most advanced high-school grade in the province in which it is located, with all or part of the work offered being acceptable for credit toward a university degree or equivalent diploma. The definition thus excludes institutions offering technical and vocational post-high school courses for which credit is not given.

In 1966-67 there were nearly 400 institutions of higher education in Canada, of which about 50 have degree-granting powers (not including about 20 that confer degrees in theology only).

Enrolment.—Full-time university-grade enrolment continues to increase year by year and indications are that enrolments may well reach the 400,000-mark in another five years. Table 8 shows full-time enrolment by province for the academic years ended 1964-67. In addition to full-time students, there were about 84,000 part-time university-

grade students (including over 8,000 graduate students) in attendance during the regular 1966-67 winter session, and an estimated 6,500 students take university-grade credit correspondence courses each year. University-grade summer school enrolment was over 70,000 in 1966.

8.—Full-Time Regular Winter Session University-Grade Enrolment, by Province, Academic Years Ended 1961-67

Province	1963-64		1964-65		1965-66		1966-67	
	Total	Graduate Only	Total	Graduate Only	Total	Graduate Only	Total	Graduate Only
	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	2,244	47	2,652	51	3,168	62	3,893	69
Prince Edward Island.....	738	—	802	—	924	—	1,139	—
Nova Scotia.....	7,722	269	8,509	400	9,457	460	9,806	522
New Brunswick.....	5,153	199	5,773	305	6,371	383	6,862	439
Quebec.....	53,605	3,868	59,400	4,641	67,316	5,810	75,070	6,500
Ontario.....	44,191	4,201	50,793	5,424	58,983	6,859	68,589	7,727
Manitoba.....	8,802	584	9,172	531	11,069	600	12,389	687
Saskatchewan.....	7,811	315	9,603	337	10,707	407	11,577	556
Alberta.....	11,079	825	12,977	1,048	14,749	1,304	16,983	1,603
British Columbia.....	17,043	845	18,557	1,060	23,144	1,311	26,364	1,616
Totals.....	158,388	11,133	178,238	13,797	205,888	17,196	232,672	19,719

Foreign enrolment has risen considerably during the past decade, with a larger proportion of students from countries other than the United States and Britain coming to Canadian institutions, as shown in Table 9. In 1966-67 about one of every 18 full-time university students in Canada was a resident of a country other than Canada. The United States, Hong Kong, Trinidad and Tobago, India and Britain each accounted for over 500 students, and France, Pakistan, Malaysia, Viet-Nam, Nigeria, Jamaica, the Republic of China, Japan, Germany, Guyana and Haiti contributed from 100 to 400 each. About 150 other countries or territories were represented in the figures.

9.—Students from Other Countries in Canadian Universities, and Canadian Students in Universities in the United States and Britain, Academic Years Ended 1951 and 1961-67

Academic Year Ended—	Total Full-Time University Enrolment in Canada	Students with Residence in—				Enrolment from Other Countries in Canada		Canadians Studying in—	
		United States	Britain	British West Indies	Other Countries	From all Countries	From British Commonwealth Only	United States ¹	Britain ²
	No.	No.	No.	No.	No.	No.	No.	No.	No.
1951.....	68,306	1,758	164	252	1,014	3,188	..	4,528	372
1961.....	113,864	2,362	582	1,210	3,097	7,251	3,294	6,058	502
1962.....	128,894	2,660	577	1,251	3,412	7,900	3,552	6,571	559
1963.....	141,388	2,845	650	1,153	3,870	8,518	3,763	7,004	657
1964.....	158,388	3,193	687	1,214	4,396	9,490	4,202	8,458	652
1965.....	178,238	3,283	715	1,154	5,002	10,154	4,429	9,253	657
1966.....	205,888	3,395	886	1,064	5,939	11,284	5,021	9,755	660
1967.....	232,672	3,549	851	1,124	7,419	12,943	5,987	12,117	660

¹ Data from the Institute of International Education, New York.
monwealth Universities, London, England.

² Data from the Association of Com-

Graduates.—Table 10 gives figures for graduates in most faculties for the academic years ended 1965-67.

10.—Graduates from Universities and Colleges, Academic Years Ended 1965-67

NOTE.—Figures for 1920-36 are given in the 1938 Year Book, pp. 993-997, and for 1937-64 in the corresponding table of subsequent editions.

Field of Study	1964-65		1965-66 ^a		1966-67 ^a	
	Total	Female	Total	Female	Total	Female
	No.	No.	No.	No.	No.	No.
Graduates in Arts, Pure Science and Commerce	18,984	5,727	23,009	7,265	27,533	9,211
Bachelors of Arts.....	14,246	5,168	17,565	6,606	21,452	8,306
Bachelors of Science (in Arts) ²	3,111	506	3,606	592	4,308	809
Bachelors of Commerce ³	1,627	53	1,838	67	1,773	96
Graduates in Applied Science	2,488	10	2,496	20	2,664	15
Bachelors of Applied Science in Engineering... ⁴	2,256	6	2,241	15	2,420	11
Bachelors of Architecture.....	118	3	139	5	132	3
Bachelors of Forestry.....	114	1	116	—	112	1
Graduates in Agriculture, Veterinary Science and Household Science	838	344	951	453	1,078	497
Bachelors of Agricultural Science.....	436	21	441	28	508	26
First degrees in Veterinary Science.....	81	4	90	7	103	5
Bachelors of Household Science.....	321	319	420	418	467	466
Graduates in Education, Library Science and Social Service	6,434	2,940	7,395	3,408	7,590	3,799
First degrees in education or pedagogy.....	5,204	2,318	6,080	2,828	6,496	3,300
Librarian degrees and diplomas.....	385	297	337	234	309	229
Physical education first degrees and diplomas.....	495	121	588	124	654	200
Social service degrees and diplomas.....	350	204	390	222	131	70
Graduates in Medicine and Related Studies	2,580	1,042	2,409	1,104	2,715	1,277
Medical doctors.....	1,034 ⁴	94 ⁴	788	96	940	107
Dentists.....	286	9	304	15	310	18
Pharmacists.....	375	125	374	130	331	105
First degrees in nursing.....	563	560	662	655	810	796
Physiotherapy and occupational therapy.....	249	247	209	205	248	242
Chiropractic.....	23	4	37	1	35	4
Optometry.....	50	3	35	2	41	5
Graduates in Law and Theology	1,684	76	1,606	63	1,796	72
First degrees and equivalent diplomas in law... ⁵	767	38	932	52	1,041	55
Roman Catholic theological colleges.....	575	—	421	2	424	2
Protestant theological colleges.....	342	38	253	9	331	15
Other First Degrees and Equivalent Diplomas	489	277	604	347	467	266
Bachelors of Fine and Applied Arts.....	21	14	24	13	80	52
Bachelors of Interior Design.....	21	17	18	14	14	11
Journalism.....	33	21	50	21	57	26
Bachelors of Music.....	128	94	159	102	171	114
Others.....	286	131	353	197	145	63
Graduate and Honorary Degrees	4,922	905	6,184	1,092	7,361	1,373
Honorary doctorates.....	258	15	254	20	321	24
Doctorates in course.....	569	55	697	76	788	60
Masters of Arts ⁶	2,242	546	2,654	581	3,199	780
Masters of Science ⁶	1,172	103	1,441	122	1,764	193
Licences ⁷	681	186	1,138	293	1,289	316

¹ Includes Bachelors of Letters and Social Science.

² Some institutions include Science degrees in Arts.

³ Includes Bachelors of Accounting and Secretarial Science.

⁴ Prior to 1964-65, l'Université de Montréal and l'Université Laval granted the M.D. degree only after the intern year. In 1964-65 they began to grant it before the intern year, and for that year both institutions had two graduating classes.

⁵ Includes M. Com., M.Ed.,

M.Paed., M.S.W., as well as M.A. In some institutions, M.Sc. degrees are included with M.A.s. ⁶ Includes M.A.Sc., M.S.A., M.Sc.F., M. Arch., M.V.Sc., M.Sc. Dent., M. Surgery (where conferred separately) as well as M.Sc.

⁷ The "Licence" in the French-language universities is the next degree following the Bachelor.

Teaching Staffs.—Table 11 shows the trend in university teaching staffs since 1958.

11.—Full-Time Teaching Complement in Universities and Colleges, Academic Years Ended 1959-68

NOTE.—Figures are estimates based on returns from institutions representing about 50 p.c. of the total enrolment and include some research personnel and junior and sessional lecturers and assistants.

Academic Year Ended—	Teachers	Academic Year Ended—	Teachers
	No.		No.
1959.....	8,200	1964.....	12,940
1960.....	9,200	1965.....	14,300
1961.....	9,755	1966.....	15,900
1962.....	10,540	1967.....	18,000
1963.....	11,670	1968.....	20,700

Table 12 gives median salaries, by rank and region, for the staffs of 19 major institutions for 1966-67.

12.—Median Salaries of Teachers at 19 Institutions, Academic Year 1966-67

NOTE.—Institutions include: *West*—Universities of Manitoba, Saskatchewan, Alberta, Calgary and British Columbia; *Central*—Bishop's, McGill, Queen's, Toronto, Victoria, Trinity, McMaster, Western Ontario and Ontario Institute for Studies in Education; *Atlantic*—Acadia, Dalhousie, St. Francis Xavier, Mount Allison and New Brunswick.

Rank	Region				Staff Complement
	Atlantic Provinces	Central Provinces	Western Provinces	Total	
	\$	\$	\$	\$	No.
Deans.....	16,375	20,500	20,393	20,107	144
Professors.....	14,229	16,373	16,323	16,201	1,701
Associate professors.....	10,984	12,217	12,726	12,345	2,133
Assistant professors.....	9,027	9,546	9,834	9,629	2,775
Instructors and lecturers.....	7,152	7,694	7,633	7,604	1,249
Totals, All Ranks.....	9,844	11,419	11,219	11,175	8,066¹

¹ Includes 64 ungraded professors not distributed above.

Finances.—Table 13 gives a 10-year series of the finances of Canadian universities. Since 1954 they have received more than one half of their revenue from government grants and a very small amount from municipal councils. Beginning with the academic year 1951-52, the Federal Government has provided university grants to help to meet current operating costs. These grants were originally paid on the basis of 50 cents per head of population in each province and the eligible institutions received their share of the provincial allotment according to the number of full-time students in undergraduate and graduate courses. The rate of grant was increased to \$1.00 per capita in 1956-57, to \$1.50 in 1958-

59 and to \$2.00 in 1962-63. In 1966-67 federal grants, under a somewhat modified formula, were increased to approximately \$5.00 per capita. The Province of Quebec did not accept this grant for the years up to 1955-56. From 1956-57 to 1959-60 the payments refused by Quebec were held in trust by the Canadian Universities Foundation (now the Association of Universities and Colleges of Canada), which administers the fund. In 1960-61 the Quebec Government and the Federal Government negotiated a new tax-sharing agreement under which Quebec provides its own grants and is reimbursed by an abatement of corporation tax. Commencing with 1967-68 the Federal Government has discontinued paying grants directly to universities. Instead, the government agreed to transfer to the provinces financial resources (certain portions of federal revenues and required cash payments) equal to either \$15.00 per capita or 50 p.c. of the operating costs of the post-secondary education, whichever is the greater. The financial resources so transferred will be disbursed by provincial governments at their discretion. Table 14 gives details of the federal grants for each of the academic years ended 1965-67.

The Federal Government also provides assistance to universities through the University Capital Grants Fund which is administered by the Canada Council. The original amount in the fund was \$50,000,000 (interest and profits to Mar. 31, 1967 increased it to over \$67,000,000), to be granted in amounts not exceeding 50 p.c. of specific building or capital equipment projects, having regard to the population of each province. Up to the end of March 1967, a total of over \$66,000,000 had been authorized. Grants are paid in four equal instalments spread over the period of construction so that there is a time lag between approval and payment. The Canada Council was also endowed with an additional \$50,000,000 (increased by \$10,000,000 Apr. 3, 1965), the interest on which is available for the provision of scholarships or other assistance in the fields of the arts, humanities and social sciences (see p. 395).

13.—Current Income and Expenditure of Universities and Colleges, Academic Years Ended 1957-66

Academic Year Ended—	Current Income					Total Current Expenditure
	Endowments and Investments	Government Grants	Student Fees	Miscellaneous	Total	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1957 ^r	5,014	52,861	25,105	10,733	93,713	89,471
1958 ^r	4,375	60,293	30,887	10,304	105,839	106,166
1959 ^r	4,668	74,294	33,546	11,373	123,881	124,564
1960 ^r	5,082	87,863	40,789	14,132	147,866	148,659
1961 ^r	5,332	115,524	45,991	14,396	181,243	181,311
1962.....	7,834	121,461	56,249	25,062 ^r	210,606 ^r	211,330
1963.....	8,191	142,606	62,397	27,107	240,301	244,015
1964.....	10,308	168,626	75,573	28,785	283,292	289,931
1965.....	7,986	200,412	89,738	44,632	342,768	345,222
1966.....	9,030	256,915	110,624	49,780	426,349	432,332

14.—Federal Government University Grants, by Province, Academic Years Ended 1965-67

Province and Academic Year Ended—	Institutions	Eligible Enrolment	Total Grants	Grant per Eligible Student
	No.	No.	\$	\$
Newfoundland.....1965	1	2,652	982,000	370.29
.....1966	1	3,168	996,000	314.39
.....1967	1	3,893	2,200,000	565.22
Prince Edward Island.....1965	2	802	214,000	266.83
.....1966	2	924	216,000	233.77
.....1967	2	1,139	558,000	489.74
Nova Scotia.....1965	13	8,297	1,520,000	183.20
.....1966	13	9,283	1,522,000	163.96
.....1967	13	9,574	4,642,000	484.88
New Brunswick.....1965	4	5,759	1,234,000	214.27
.....1966	4	6,344	1,246,000	196.41
.....1967	4	6,850	3,704,000	540.71
Quebec ¹.....	...	...	...	...
Ontario.....1965	33	46,778	13,172,000	281.59
.....1966	34	54,512	13,462,000	245.16
.....1967	34	64,503	33,904,000	525.62
Manitoba.....1965	8	8,892	1,916,000	215.47
.....1966	8	10,756	1,924,000	178.88
.....1967	7	12,111	4,960,000	409.58
Saskatchewan.....1965	13	9,456	1,886,000	199.45
.....1966	11	10,563	1,902,000	180.06
.....1967	12	11,425	4,482,000	392.28
Alberta.....1965	7	12,517	2,864,000	228.81
.....1966	7	14,282	2,902,000	203.19
.....1967	10	16,515	7,065,000	427.77
British Columbia.....1965	5	17,958	3,476,000	193.56
.....1966	6	21,645	3,578,000	165.30
.....1967	6	24,380	9,440,000	387.19
Totals¹.....1965	86	113,111	27,264,000	241.04
.....1966	86	131,877	27,748,000	210.41
.....1967	89	150,390	70,955,000	471.80

¹ See text on p. 379 re Quebec.

Subsection 3.—Vocational Education

Table 15 summarizes the data on full-time vocational training classes. The duration of these classes may vary from three weeks taken annually by indentured apprentices at provincially operated trade schools, to three-year vocational high school courses or post-secondary courses offered in provincial institutes of technology. Numerous skills are taught, ranging from short courses in welding or typing to extended courses for instrument technicians or aircraft maintenance men. Students taking two-year or three-year vocational courses in public secondary schools may, upon completion, enter employment or may continue other formal training in a trade school or an institute of technology.

In addition to the full-time vocational courses, a great variety of part-time instruction is offered by both public and private institutions as an alternative to full-time training or as an attraction to the individual interested in a hobby.

15.—Full-Time Enrolment in Vocational Courses, School Year 1965-66

Course	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	No.	No.	No.	No.	No.	No.
Publicly Sponsored—¹						
Vocational high school courses....	290	773	2,196	6,635	..	166,902
Post-secondary technical courses...	381	—	112	319	9,628	6,468
Apprenticeship courses.....	612	237	1,092	296	...	5,810
Trade and other occupational courses ²	3,209	226	467	2,617	13,382	2,727
Training in co-operation with industry ²	—	128	438	462	6,411	8,238
Training of the unemployed ²	1,273	265	2,288	748	20,336	46,210
Training of the disabled ²	144	5	256	123	515	1,587
Training of technical and vocational teachers ²	1	1	1	132 ⁴	—	1,229
Training for federal departments and agencies ²	184	—	572	—	147	254
Privately Sponsored—						
Trade school courses (1964-65).....	—	—	243	—	9,497	3,743
Business school courses (1964-65)...	5	5	774 ⁶	608	8,638	5,357
Totals.....	6,093	1,634	20,378		68,554	248,525
	Man.	Sask.	Alta.	B.C.	Y.T. and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Publicly Sponsored—¹						
Vocational high school courses....	5,426	4,291	13,196	15,420	422	215,551 ⁷
Post-secondary technical courses...	755	534	2,652	892	—	21,741 ⁸
Apprenticeship courses.....	961	1,543	5,992	3,904	—	20,447 ⁹
Trade and other occupational courses ²	2,647	3,746	4,146	7,333	323	40,823
Training in co-operation with industry ²	786	518	1,469	1,963	266	20,679
Training of the unemployed ²	4,259	2,021	2,364	2,789	166	82,719
Training of the disabled ²	911	231	14	177	—	3,963
Training of technical and vocational teachers ²	123	—	182	64	—	1,730
Training for federal departments and agencies ²	—	—	—	—	—	1,157
Privately Sponsored—						
Trade school courses (1964-65).....	726	957	1,178	1,217	—	17,561 ¹⁰
Business school courses (1964-65)...	1,288	1,371	1,584	1,806	—	21,426 ¹⁰
Totals.....	17,882	15,212	32,777	35,565	1,177	447,797

¹ Enrolments of full-time students under the various programs of the federal-provincial agreements. ² As at Mar. 31, 1966. ³ See footnote ⁴. ⁴ Includes students from other Atlantic Provinces. ⁵ See footnote ⁶. ⁶ Includes enrolment in one school in Newfoundland and one in Prince Edward Island. ⁷ In addition, there were 19,485 vocational students in high schools not approved under Program 1 of the federal-provincial agreements. ⁸ Excludes 3,225 full-time students in one-year preparatory courses at institutes of technology and agreements. ⁹ In addition, there were 7,586 part-time students and 132 students taking formal apprenticeship courses by correspondence. ¹⁰ In addition, there were 17,814 students in trade schools and 23,215 in business colleges taking part time courses, and 21,389 taking correspondence courses.

Subsection 4.—Adult Education

Adult education benefits from a wide variety of sponsors, both public and private, but most important in this respect are government departments and agencies at all three levels. Although the Federal Government makes substantial contributions, provincial departments of education, of course, play the major role since education is a provincial responsibility. Total adult education enrolment in 1964-65 was 2,854,065; the apparent increase of 47.4 p.c. over the previous year is mainly accounted for by the inclusion, for the first time, of enrolment in informal courses conducted by health departments and agencies, which comprised 12.9 p.c. of the total. Government-sponsored classes accounted for 69.5 p.c. and universities and colleges (reported by 96 institutions) for 10.7 p.c.

16.—Adult Education Activities, School Year 1964-65

Province or Territory and Sponsor	Part-Time Enrolment in—			Total Enrolment	Attendance at Public Lectures, etc.
	Academic Subjects	Vocational and Professional Training	Informal Courses		
	No.	No.	No.	No.	No.
Newfoundland—					
Universities.....	1,235	964	1,074	3,273	11,740
Government ¹	1,025	1,616	1,979	4,620	47,947
Prince Edward Island—					
Universities.....	528	526	89	1,143	20
Government ¹	58	1,077	658	1,793	10,758
Nova Scotia—					
Universities.....	3,745	5,997	1,988	11,730	34,442
Government ¹	5,527	2,352	3,419	11,298	17,346
New Brunswick—					
Universities.....	5,591	911	495	6,997	7,150
Government ¹	4,650	9,869	6,867	21,386	13,100
Quebec—					
Universities.....	40,789	23,683	18,814	83,586	23,460
Government ¹	43,293	195,391	58,355	297,039	386,268
Ontario—					
Universities.....	46,754	22,437	20,439	89,630	95,238
Government ¹	70,613	663,408	63,914	797,935	192,674
Manitoba—					
Universities.....	7,258	2,249	2,284	11,791	52,538
Government ¹	11,462	79,731	14,723	105,916	469,700
Saskatchewan—					
Universities.....	9,079	9,094	6,309	24,482	9,090
Government ¹	4,221	269,981	2,501	276,703	27,500
Alberta—					
Universities.....	8,248	16,084	17,198	41,530	47,336
Government ¹	9,323	113,404	3,310	126,037	133,500
British Columbia—					
Universities.....	10,959	9,650	10,819	31,428	208,487
Government ¹	16,499	94,638	54,191	165,328	225,100
Yukon Territory.....	—	118	57	175	—
Federal Government.....	8,924	164,738	3,927	177,589	728,259
Public libraries.....	—	—	8,179	8,179	582,675
Business colleges.....	—	22,465	—	22,465	—
Teacher-training institutions.....	—	43,577	—	43,577	—
Trade schools.....	—	40,835	—	40,835	—
Training in industry.....	—	80,958	—	80,958	—
Museums and art galleries.....	—	—	4,412	4,412	648,729
Wheat pools.....	—	9,526	—	9,526	—
Health departments and agencies.....	—	—	368,926	368,926	3,303,310
Totals, 1964-65².....	309,108	1,879,030	674,927	2,854,065	7,236,367
Totals, 1963-64².....	260,252	1,338,220	337,716	1,936,188	4,279,879

¹ Operated and assisted by federal and provincial departments and agencies.² Excludes duplicated enrolment.

PART II.—CULTURAL ACTIVITIES RELATED TO EDUCATION

Section 1.—The Arts and Education*

Fine Art Schools, Galleries and Organizations.—Fine art (architecture, painting and drawing, commercial and decorative arts, graphics, ceramics and sculpture) appears as an elective subject of the faculty of arts in a number of universities, where it may be taken as one of five, six or more subjects for a year or two. Six universities offer a Bachelor of Fine Arts degree:—

Mount Allison University, Sackville, N.B.
 Sir George Williams University, Montreal, Que.
 University of Windsor, Windsor, Ont.
 University of Manitoba, Winnipeg, Man.
 University of Alberta, Edmonton, Alta.
 University of Victoria, Victoria, B.C.

Eleven universities offer a Bachelor of Arts degree with a major in fine art:—

Université de Moncton, Moncton, N.B.
 McGill University, Montreal, Que.
 Sir George Williams University, Montreal, Que.
 University of Guelph, Guelph, Ont.
 McMaster University, Hamilton, Ont.
 University of Toronto, Toronto, Ont.
 University of Western Ontario, London, Ont.
 University of Windsor, Windsor, Ont.
 University of Saskatchewan, Saskatoon and Regina, Sask.
 University of Calgary, Calgary, Alta.
 University of British Columbia, Vancouver, B.C.

There are many schools of art with varying academic requirements for admission. These offer diploma or certificate courses and are concerned largely with the technical development of the artist. Among those widely known are:—

Nova Scotia College of Art, Halifax, N.S.
 École des Beaux-Arts, Quebec, Que.
 École des Beaux-Arts, Montreal, Que.
 Institut des Arts Appliqués, Montreal, Que.
 School of Art and Design, Montreal Museum of Fine Arts, Montreal, Que.
 Lakehead College of Arts, Science and Technology, Port Arthur, Ont.
 Ontario College of Art, Toronto, Ont.
 University of Manitoba School of Fine Arts, Winnipeg, Man.
 School of Art, Regina Campus, University of Saskatchewan, Regina, Sask.
 Alberta College of Art, Calgary, Alta.
 Banff School of Fine Arts, Banff, Alta.
 Vancouver School of Art, Vancouver, B.C.
 Kootenay School of Art, Nelson, B.C.
 University of Victoria, Victoria, B.C.

Courses in these schools vary in length with the requirements of the individual student but may extend over as many as four years. In some of these schools fine crafts as well as fine arts are taught. Summer schools of art are sponsored by some of the foregoing institutions, by universities and by various independent groups. One of the more important summer schools is the Banff School of Fine Arts, affiliated with the University of Calgary.

* Revised, except where otherwise noted, by the Association of Universities and Colleges and by the Extension Services of the National Gallery of Canada, Ottawa.

Public art galleries in the principal cities perform valuable educational services among adults and children. Children's Saturday classes, conducted tours for school pupils and adults, radio talks, lectures and concerts are features of the programs of the various galleries. Many of these institutions supply their surrounding areas with travelling exhibitions and some range even farther afield. Several organizations such as the Maritime Art Association, the Atlantic Provinces Art Circuit, the Western Canada Art Circuit, the Art Institute of Ontario, the Art Gallery of Ontario and the new *Fédération des centres culturels du Québec* have been founded to carry out this sort of travelling program on a regional basis. On a smaller scale, art circuits are organized to serve certain areas such as those around St. John's, Nfld., Charlottetown, P.E.I., Trois-Rivières and Hull, Que., and Winnipeg, Man. The National Gallery of Canada conducts a nation-wide program of this nature and is the third largest circulating agency in North America. Several galleries maintain an art-rental service.

Among the principal public art galleries are:—

Fathers of Confederation Art Gallery and Museum, Charlottetown, P.E.I.
 Beaverbrook Art Gallery, Fredericton, N.B.
 The New Brunswick Museum, Saint John, N.B.
 Montreal Museum of Fine Arts, Montreal, Que.
 Musée d'Art Contemporain, Montreal, Que.
 Musée du Québec, Quebec, Que.
 Art Gallery of Hamilton, Hamilton, Ont.
 Art Gallery of Ontario, Toronto, Ont.
 Kitchener-Waterloo Art Gallery, Kitchener, Ont.
 National Gallery of Canada, Ottawa, Ont.
 Public Library and Art Museum, London, Ont.
 Rothman's Art Gallery, Stratford, Ont.
 Sarnia Public Library and Art Gallery, Sarnia, Ont.
 Willistead Art Gallery, Windsor, Ont.
 Winnipeg Art Gallery, Winnipeg, Man.
 Mendel Art Gallery, Saskatoon, Sask.
 Moose Jaw Art Gallery and Museum, Moose Jaw, Sask.
 Edmonton Art Gallery, Edmonton, Alta.
 Art Gallery of Greater Victoria, Victoria, B.C.
 Vancouver Art Gallery, Vancouver, B.C.

Other important collections of art are housed in arts councils and university galleries. Among university galleries are:—

St. John's Memorial University Art Gallery, St. John's, Nfld.
 Dalhousie University Art Gallery, Halifax, N.S.
 Creative Art Centre of the University of New Brunswick, Fredericton, N.B.
 Owens Museum of Fine Arts, Mount Allison University, Sackville, N.B.
 Université de Moncton, Moncton, N.B.
 McGill University, Montreal, Que.
 Université Laval, Quebec, Que.
 Séminaire des Clercs de St-Viateur, Joliette, Que.
 Sir George Williams University Art Gallery, Montreal, Que.
 Agnes Etherington Art Centre, Queen's University, Kingston, Ont.
 Carleton University, Ottawa, Ont.
 Hart House, and Sigmund Samuel Canadiana Gallery of the University of Toronto, Toronto, Ont.
 McIntosh Memorial Art Gallery, University of Western Ontario, London, Ont.
 York University, Toronto, Ont.
 University of Manitoba, Winnipeg, Man.
 Norman Mackenzie Art Gallery of the University of Saskatchewan, Regina, Sask.
 University of Saskatchewan, Saskatoon, Sask.
 University of Alberta, Edmonton, Alta.
 University of Calgary, Calgary, Alta.
 Fine Arts Gallery of the University of British Columbia, Vancouver, B.C.

Five of the more important galleries connected with arts councils are the St. Catharines and District Arts Council, St. Catharines, Ont., the Glenhyrst Arts Council, Brantford, Ont., the Department of Fine Arts, McMaster University, Hamilton, Ont., the Brandon Allied Arts Centre, Brandon, Man., and the Art Gallery of the Calgary Allied Arts Centre, Calgary, Alta.

Other Fine Art Organizations.—Among the leading art organizations of national scope, exclusive of museums and art galleries, are:—

- Association of Canadian Industrial Designers
- National Design Council
- Canadian Conference of the Arts
- Canadian Craftsmens Association
- Canadian Society for Education through Art
- Canadian Group of Painters
- Canadian Guild of Potters
- Canadian Handicrafts Guild
- Canadian Museums Association
- Canadian Society of Graphic Art
- Canadian Society of Painter-Etchers and Engravers
- Canadian Society of Painters in Water Colour
- Canadian Society of Landscape Architects
- Federation of Canadian Woodcarvers
- Royal Canadian Academy of Arts
- Royal Architectural Institute of Canada
- Sculptors' Society of Canada
- Town Planning Institute of Canada
- Canadian Centre for Films on Art
- Community Planning Association of Canada.

The National Gallery of Canada.—The beginnings of the National Gallery of Canada are associated with the founding of the Royal Canadian Academy of Arts in 1880. The Marquis of Lorne, then Governor General, had recommended and assisted the founding of the Academy and among the tasks he assigned to that institution was the establishment of a National Gallery at the seat of government. Until 1907 the National Gallery was under the direct control of a Minister of the Crown but in that year, in response to public demand, an Advisory Arts Council consisting of three laymen was appointed by the Government to administer grants to the National Gallery. Three years later, the first professional curator was appointed.

In 1913, the National Gallery was incorporated by Act of Parliament (RSC 1952, c. 186) and placed under the administration of a Board of Trustees appointed by the Governor General in Council; its function was to encourage public interest in the arts and to promote the interests of art throughout the country. Under this management, the Gallery increased its collections and developed into an art institution worthy of international recognition. Today, the Gallery administration comes under the aegis of the Secretary of State. The Board of Trustees, now composed of nine members representing all sections of Canada, meets twice annually. In 1960, the Gallery entered a new era in its history when the entire national collection and the staff and equipment necessary to its maintenance were transferred to new modern quarters—the Lorne Building in downtown Ottawa—which provides adequate well-lighted space for hanging the permanent collection and for displaying travelling exhibitions.

The Gallery's collections are of indisputable taste and quality. They have been built up along international lines and give the people of Canada an indication of the origins from which their own tradition is developing. The collection of Canadian art, the most extensive and important in existence, is continually being augmented by the purchase of works from the Biennials of Canadian Art and other sources. The collections include many Old Masters, among which are twelve acquired from the famous Liechtenstein collec-

tion; extensive war collections; the Massey collection presented to the Gallery during 1946-50 by the Massey Foundation; a collection of French paintings; prints and drawings; and diploma works of the Royal Canadian Academy. The prints and drawings collection consists of more than 5,000 items. The services of the Gallery include the operation of a reference library open to the public which contains more than 10,000 volumes and periodicals on the history of art and other related subjects.

The National Conservation Research Laboratory, established in 1964, provides technical information on works of art from public and private collections across Canada and is responsible for the conservation of the national art collections. In addition, research is carried out on the effects of environment on works of art and on the durability of artists' materials.

An active program of exhibitions, lectures, films and guided tours is maintained for visitors to the Gallery in Ottawa. The interests of the country as a whole are served by circulating exhibitions, lecture tours, publications, reproductions and filmstrips prepared by the National Gallery staff. Promotion of and information on art films are handled by the Canadian Centre for Films on Art and their distribution by the Canadian Film Institute. The Gallery promotes interest in Canadian art abroad by participating in international exhibitions such as the Biennials of Venice, São Paulo and Paris, and by preparing major exhibitions of Canadian art for showing in other countries. At the same time, it brings important exhibitions from abroad for circulation in Canada.

Performing Arts Schools.—Music, the most widespread of the performing arts (which also include opera, drama, ballet and dance), is a degree course in a number of universities. The following offer degree courses:—

- Acadia University, Wolfville, N.S.—B.A. with music major, and Mus. B.
- University of Alberta, Edmonton, Alta.—B.A. major and Mus. B.
- Brandon College, Brandon, Man.—B. Mus. (Education)
- University of British Columbia, Vancouver, B.C.—B.A. major and B. Mus.
- University of Calgary, Calgary, Alta.—B. Mus.
- Université Laval, Quebec, Que.—B. Mus.
- University of Manitoba, Winnipeg, Man.—B.A. major and B. Mus.
- University of Montreal, Montreal, Que.—B. Mus. and D. Mus.
- McGill University, Montreal, Que.—B. Mus.
- Université de Moncton (affiliated Collège Notre Dame d'Acadie), Moncton, N.B.—B. Mus.
- Mount Allison University, Sackville, N.B.—B.A. major
- Queen's University, Kingston, Ont.—B.A. major
- University of Toronto, Toronto, Ont.—B. Mus., M. Mus. and D. Mus.
- University of Western Ontario, London, Ont.—B.A. major
- St. Francis Xavier University (affiliated College Mount St. Bernard), Antigonish, N.S.—B.A. major
- Université Saint-Louis, Edmundston, N.B.—B. Mus.
- University of Saskatchewan, Saskatoon, Sask.—B.A. major and B.Ed. music
- Université de Sherbrooke (affiliated Collège du Sacré-Coeur), Sherbrooke, Que.—B.A. major
- University of Victoria, Victoria, B.C.—B. Mus.

Advanced instruction in music is also given at the Conservatoire de Musique et d'Art Dramatique in both Montreal and Quebec. Opera may be studied at the Royal Conservatory Opera School of the University of Toronto where advanced students work in close collaboration with the Canadian Opera Company and also at the Conservatoire de Musique et d'Art Dramatique and the Banff School of Fine Arts (summer) at Banff, Alta.

A Bachelor degree with specialization in drama may be obtained at Queen's University and the Universities of Alberta, Saskatchewan and British Columbia. Advanced instruction is also given during the summer at the Banff School of Fine Arts. The University of Toronto recently announced its first chair of drama, although it does not expect to offer degrees immediately. The University of British Columbia hopes to offer a post-graduate degree in theatre leading to the M.A. Some graduate courses are offered at the University of Saskatchewan and a degree course in drama is available at the University of Alberta. The National Theatre School of Canada offers complete practical training for talented students. It is bilingual, winter courses being held at Montreal, Que., and

summer courses at Stratford, Ont. Three years are required for the acting course and two for technical and production studies. The Manitoba Theatre School at Winnipeg is also of importance.

The National Ballet School at Toronto is the only residential ballet school in Canada. It offers academic studies together with practical instruction. Professional instruction is also offered by two other major Canadian ballet companies, Les Grands Ballets Canadiens, Montreal, and the Royal Winnipeg Ballet, Winnipeg. The Canadian School of Ballet is located in Kelowna, B.C., and advanced ballet training is given during the summer at the Banff School of Fine Arts.

Museums

The museums of Canada, as elsewhere, range from small, locally gathered, historical artifacts and objects to large government-operated institutions which collect, classify and display such objects as may be necessary to study and disseminate knowledge of natural history, human history, science and technology, with special but not exclusive reference to Canada. Many of these larger museums, especially the National Museum of Canada and the Royal Ontario Museum, have a long, distinguished heritage in research and publication of scholarly works and serve an important role as educational and cultural centres. In this area they have an advantage over other agencies of education in that they are able to provide, for study and exhibition, actual, original objects as well as descriptions and pictures of such objects. They offer many educational services to the public through exhibits, guided tours, lectures and scientific and popular publications. The following museums have staff members who are specifically charged with organizing programs in education and providing extension services:—

Nova Scotia Museum, Halifax, N.S.
 McGill University Museums, Montreal, Que.
 National Museum of Canada, Ottawa, Ont.
 Royal Ontario Museum, Toronto, Ont.
 Saskatchewan Museum of Natural History, Regina, Sask.

Other museums that conduct educational and extension programs using the regular curatorial and administrative staff are:—

The New Brunswick Museum, Saint John, N.B.
 Museum of the Province of Quebec, Quebec, Que.
 The Manitoba Museum, Winnipeg, Man.
 Provincial Museum of Natural History and Anthropology, Victoria, B.C.

Direct work with schools may involve the holding of classes within the museum or visits of museum lecturers, with exhibits, to the schools. More informal are the guided tours for visiting school classes, the lending of specimens, slides, filmstrips or motion picture films to schools, and the training of student-teachers in the educational use of the museum. A number of museums have special programs for children not directly associated with school work including Saturday lectures and film showings, activity groups, nature clubs and field excursions. At the higher educational level, museum field parties provide research training to university students in many disciplines and museum staffs act as professional consultants, answer a host of enquiries on scientific and technical subjects, and serve as consultants or advisers to foreign scholars and institutions.

For adult laymen, museums offer lectures, film showings and guided tours, the latter usually available throughout the year. Staff members may be sent to give lectures to service clubs, church groups, parent-teacher associations and hobby clubs. The latter, such as naturalists' groups, mineral clubs and astronomy societies, may use the museum as their headquarters. Travelling exhibits are prepared for showing at local fairs, historical celebrations and conventions. At least seven Canadian museums have conducted regular radio or television programs and others have made occasional contributions. Some historical museums stage annual events during which the arts, crafts or industries represented by the exhibits are demonstrated to the public.

The National Museum of Canada.*—The National Museum originated in the Geological Survey of Canada and its early history is inseparable from that institution. The first united Parliament of Upper and Lower Canada met in Montreal in 1841. In July of that year the Natural History Society of Montreal and the Literary and Historical Society of Quebec petitioned the Government to carry out a geological survey. As a result, a resolution was passed in the Estimates on Sept. 10 to defray the expenses of a Geological Survey of the Province of Canada.

William E. Logan was appointed the first director of the Geological Survey in 1842. He and his assistant, Alexander Murray, undertook their first field work in 1843, and their collections formed the humble beginnings of the National Museum. Logan was much more than a geologist and his interests extended to other branches of natural science. His diaries contain accurate drawings of named plants. He wrote in his annual report for the year 1852-53: "It may be a consideration whether a growing country like Canada could not afford to anticipate what future importance may require in the nature of a national museum and at some future time not far distant, erect an appropriate edifice especially planned for the purpose."

In the meantime, the officers of the Geological Survey continued to collect for the geological museum. In 1856, Elkanah Billings, a palæontologist, and the first of a number of specialists, was added to the staff, and the legislation passed that year to continue the work of the Geological Survey specified the establishment of a geological museum, open to the public, to exhibit specimens, books and instruments.

In 1874, the practice of recording the number of visitors to the Museum was commenced; from May 1874 to April 1875 the number of visitors was 1,017 and by the year ended April 1896 it had reached 31,595. In 1874, the distribution of specimens of minerals, rocks and other natural history objects to schools was started with a donation to the Board of School Teachers of Elora, Ont. The first organized Museum lecture program was undertaken in 1912, with a series of lectures for young people after school; by 1915, Saturday morning lectures for children and evening lectures for adults—both features of the Museum program today—were in operation. Prior to 1880, the Museum occupied several buildings in Montreal but that year the Geological Survey moved to Ottawa, occupying the former Clarendon Hotel on Sussex Street. Construction of the Victoria Memorial Museum Building was started in 1904 and in 1910 the Geological Survey moved in.

The scope of the Museum was enlarged in the "Act to make better provision respecting the Geological and Natural History Survey of Canada and for maintenance of the Museum in connection therewith" of Apr. 28, 1877. In that Act the Survey was instructed "to study and report upon the flora and fauna of the Dominion" and "to continue to collect the necessary material for a Canadian museum of natural history, mineralogy and geology". As early as the Act of 1856, the Geological Survey of Canada had been authorized "from time to time" to distribute publications relative to the Survey. From this authority developed the Museum's series of scientific bulletins presenting the researches of its staff.

The Act of 1877 established the Geological Survey and the Museum on a continuing basis and permitted the appointment of specialists in natural history. John Macoun was appointed to establish the division of biology in 1882. He was an eminent botanist who had accompanied the expedition of Sanford Fleming to explore Western Canada in 1871. Macoun's report of 1874 laid the groundwork for the establishment of western Canadian agriculture. He also published a catalogue of Canadian birds. In 1895 under the third Director of the Geological Survey, George M. Dawson, the Museum entered the field of Canadian anthropology.

In 1910 the Museum began an expanded program of research and exhibition under the direction of R. W. Brock, then Director of the Geological Survey of Canada. Unfortunately this program was curtailed during World War I because the burning of the Parliament Buildings, in 1916, forced Parliament to occupy the Museum building until 1919.

* Prepared by Dr. A. W. F. Banfield, Director, Natural History Branch, Dr. W. E. Taylor, Jr., Director, Human History Branch, and Dr. D. M. Baird, Director, Museum of Science and Technology.

Later, expansion of the exhibition halls was handicapped by the Museum sharing its building with the National Gallery of Canada and the Geological Survey of Canada. In 1927 the Governor General in Council gave authority "to designate the museum branch of the Department of Mines as the National Museum of Canada"; it is now part of the Department of the Secretary of State. During the past 20 years, particularly after the appointment of Dr. Frederick J. Alcock as Chief Curator, the Museum has increased its research, education and exhibition staff in order to play a more important role in the cultural life of Canada and perform the tasks properly assigned to the National Museum of Canada. A new National Museum building is planned for Ottawa within the next few years.

The responsibilities of a great museum include the collection, preservation, and storage of objects related to the various disciplines that fall under its purview. The next step is the undertaking of research by specialists in those fields and the publication of their findings to increase the total knowledge of their subjects. Typically, museums exhibit items from their collections as intrinsically beautiful displays and also to teach the public the scientific background to the subjects. This leads to the educational program of museums which usually includes lectures, workshops, guided tours for children and activity groups, travelling exhibits, loans, library service, and radio and television programs. The National Museum of Canada is now organized to present all these facets for the enjoyment and education of the people of Canada. It is divided into three Branches—the Natural History Branch, the Human History Branch and the Science and Technology Branch. The Natural History Branch contains the Divisions of Zoology, the National Herbarium, and Geology and Palaeontology. The Human History Branch contains the Divisions of Archaeology, Ethnology, Folklore and History, together with the Canadian War Museum. Science and Technology includes the physical sciences and all branches of technology and incorporates the previously existing National Aviation Museum. Services common to these three Branches are concerned with exhibition, educational, technical and administrative functions. During 1966, the National Museum recorded 287,468 visitors, the Canadian War Museum 235,603, the National Aviation Museum 167,039 and the National Aeronautical Collection at Rockcliffe 96,229.

The 1966-67 staff totalled 226, including 56 administrative and professional personnel, 85 technical, operational and service personnel, 41 clerical personnel and 44 casual and prevailing rate employees.

The Natural History Branch.—The 1967 field research program in natural history included a number of expeditions to various parts of Canada and adjacent areas. The work included investigations of birds in southern Ontario and in the Alberta Rockies, amphibians and reptiles of the Upper Columbia and East Kootenay Valley, B.C., and Pleistocene vertebrate faunas of the Yukon Territory. Studies were also continued on the freshwater molluscs of the Hudson Bay drainage basin, on coastal marine Bryozoa of Vancouver Island, and shallow-water crustaceans of Eastern Canada.

In addition, 14 projects on the taxonomy, distribution and ecology of various invertebrate animal groups were conducted by Canadian university staff and students under contract with the Museum. These included investigations on the planktonic rotifers of Ontario, crustaceans of lakes in Newfoundland, and sea cucumbers of British Columbia, as well as freshwater molluscs of marshes in Manitoba and southeastern Ontario, and marine boring bivalves of Eastern Canada. Additional studies were made on fishes of the Milk River in Alberta, and on frogs and toads of the Calgary area. A post-doctoral research grant was awarded for a study of Pleistocene fossil mammals of the Regina area of Saskatchewan.

The Museum also participated in oceanographic cruises sponsored by the Fisheries Research Board of Canada and the Bedford Institute of Oceanography in the eastern Pacific and western Atlantic regions, and in co-operative research studies on marine faunas of New England and the Gulf coast region of the United States.

Botanical investigations were conducted in Yukon, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario and Nova Scotia. Two visiting botanists under contract with the National Museum investigated the shoreline vegetation of lakes in northern Manitoba and conducted ecological studies of cryptogams on Axel Heiberg Island.

The major field operation in mineralogy was a five-week project near Bancroft, Ont., where veins of large, well-formed crystals of nepheline and biotite were opened. This is believed to be one of the finest sources in the world for these minerals. There were also investigations and collections made in other parts of Ontario and in Quebec, New Brunswick, Nova Scotia, Vermont and California. The Museum's mineral display was removed in 1966 from the mezzanine gallery where it had been installed in 1936 to a larger area in the Museum's east wing on the main floor, which now holds a greatly expanded exhibit.

The education program continued with weekly lectures for adults, Saturday morning film programs for children, the junior nature club, the school loan collection, children's classes, guided tours, and the National collection of nature photographs.

The Human History Branch.—In the past six years there has been a marked expansion in the research and publication activities of the Human History Branch. This work combines the efforts of staff scientists and that of other scholars whose work is sponsored, in toto or in part, by museum research contracts. Research, laboratory and office studies are conducted by the Branch in history, archaeology, physical anthropology, folklore, ethnology, linguistics and ethnohistory. In 1966, about 75 research projects were under way including: archaeological field work in every part of Canada from the Pacific Coast to Newfoundland and the Arctic Islands as well as in Alaska; ethnological research in several subdisciplines of ethnology in all parts of Canada; a score of collecting projects in the folklore of Canadian ethnic groups; and diverse studies in Canadian history.

The 1966-67 exhibition program included the completion of renovations in the Indian Hall and the Bird Hall, both of which were opened to the public in late 1966, and the planning and designing of a Centennial exhibit on Confederation and of three major galleries for the new quarters of the Canadian War Museum. Exhibit assistance was also given to other museums, to Expo 67, and to the Centennial Train. Staff scientists gave many guest lectures in various centres, answered over 1,000 mail enquiries and served as consultants or advisers to foreign institutions and scientists. In addition to the production of popular articles and a long list of professional publications on the Museum's work, research papers were prepared and read at professional meetings.

The Science and Technology Branch.—In 1961 the Government announced the intention to establish, as a third Branch of the National Museum, a Museum of Science and Technology, which would incorporate the existing National Aviation Museum. Funds for the inauguration of this project were provided in the year ended Mar. 31, 1967, and a Director was appointed. A large building in southeast Ottawa was leased and the Museum was opened to the public in September 1967. Its purpose is to enable the people of Canada to understand the role of science and technology in the development of their land of great distances and many environments. Represented are the railways, so important in opening up and uniting Canada; automotive transportation; aviation; industrial technology; marine technology; agriculture; communications technology of many kinds; power, forestry and fisheries technology; mining technology and metallurgy; and the physical sciences.

An active program of public lectures and streamed tours for school children complements publication of popular accounts of many of the subject areas in an extensive education plan. It is generally built around three themes relating to the national development—how man has overcome space and time in this vast land by varied methods of transportation and communication; how man has changed his environment with science and technology and the tools he has built and used; how man has changed his living habits as a result of the changes from sod hut and log cabin to the world's second highest standard of living.

Section 2.—The Educational Functions of the Canadian Broadcasting Corporation and the National Film Board

Educational Functions of the Canadian Broadcasting Corporation.—Many hours of educational and semi-educational programs are broadcast annually on radio and television facilities of the Canadian Broadcasting Corporation. Whether these programs are directed to children, to youths or to adults, entertainment is combined with information whenever possible. Spoken-word programs, presented as readings, talks, discussions, documentary programs, dramatizations, or in forms combined with music, cover a wide range of interests.

The educational activities of the Corporation take three different forms—broadcasts for use in primary and secondary schools, programs designed to serve students at college and university level, and broadcasts designed for general adult education; in addition, programs for pre-school children are broadcast. Included, in the first group, are national programs of enrichment for students in all provinces and also programs regionally or locally planned in co-operation with the provincial or local Departments of Education for use in the particular province or community involved. In the second group, productions are carried out in co-operation with colleges and universities, some of which form part of recognized credit courses. Programs in the third group are general in character and are intended to inform adults in the broad areas of Canadian society, citizenship, economic development and the arts.

At the national level, Canadian school broadcasts are planned in co-operation with the Canadian Commission on School Broadcasting composed of representatives of the CBC and provincial education authorities. Two councils, one for French and one for English, have been established to work in close co-operation with the French and English languages services of CBC/Radio Canada. The CBC pays the entire cost of national school broadcasts; direct costs of provincial school broadcasts, both radio and television and including talent and writing, are absorbed by the Departments of Education; and indirect costs of production and distribution are paid by the CBC.

At both the national and provincial levels, the education authorities and program planners of the CBC jointly establish series of programs directed to the interests of various student groups. Many different subjects are included and the most advanced production techniques of broadcasting are employed in their presentation. In other programs, more simple techniques are involved but, in all productions, imagination and production experience are involved to make school broadcasts as interesting and exciting as possible.

From the inception of school broadcasting in Canada, both the CBC and the Departments of Education have recognized the need for having ample advance information concerning the nature and intent of the broadcast, so that the teacher is prepared to integrate the broadcast with the established learning process. Information on each program, suggestions for exercises and, as the case may require, bibliographies of additional reading material are made available. Programs for in-class use are broadcast during school hours and university-level programs are often scheduled in the evening time period although the main university-level output of the French television network is broadcast on Saturday and Sunday mornings.

For the year 1966-67, on English television, national school telecasts occupied two half-hour periods a week, provincial programming from three to five half-hour periods a week, and informal adult education approximately two and a half hours a week. English radio presented approximately five hours a week of educational enrichment, exclusive of general literary, musical and dramatic fare, and in-class school broadcasts totalled about two and a half hours a week in each province, a half hour of which was national school programming.

Formal educational programs on Canadian school telecasts included a look at federal, provincial and municipal politics; they showed some challenges to young Canadians (problems of conservation, of sprawling cities, of water, of the North); and they gave *An*

Introduction to the Theatre, which illustrated the origins and techniques of the main branches of the theatre, from classical ballet to slapstick comedy. In the area of youth programming (sports, religion, education, politics) the spectra of life and thought, all seen through the eyes of young people, were discussed on *Through the Eyes of Tomorrow*. In the field of adult education, special programs were broadcast on radio covering the three-day Winter Conference of the Canadian Institute on Public Affairs, which examines sociological questions in open meetings and group discussions. The summer evening sessions of the annual week-long Couchiching Conference have been broadcast for a number of years. This Conference, organized jointly by the CBC and the Canadian Institute on Public Affairs, examines Canadian and international affairs in open meetings and group discussions.

During the 1966-67 season, CBC Farms and Fisheries Department programming continued the presentation of specialist programs about farming as well as some of broad general interest. *This Land of Ours* dealt with Canada's national resources, and *Country Calendar* reported on rural life. *This Business of Farming* was designed primarily for farmers, dealing with such topics as soils and good soil management. *Air of Death*, a documentary about air pollution in Canada, emphasized the growing concern for this problem.

As certain events occurred in Canada and abroad, the CBC News program, *News-magazine*, and the public affairs program, *The Public Eye*, combined periodically to study the event in depth. This close integration of research, writing and production resulted, under the general title *This Week*, in memorable programs on New Brunswick, inflation and other topics.

Public Affairs again offered programs at differing levels of analysis and using a variety of techniques: *The Way It Is* used the technique of mixing interviews with entertainment. *The Public Eye* integrated film and studio techniques to probe cause and effect in public life; *Twenty Million Questions*, produced in Ottawa, concentrated on national and international events as they affected federal politics. The Science Unit of Public Affairs presented a spectacular series in colour, *Galapagos*, using the flora and fauna of those fascinating islands to illustrate the basic themes in Darwin's evolutionary writing, attracting very large audiences of up to 2,000,000 for this type of program.

In the afternoons, *Take 30* offered instruction in French to assist mothers in keeping up with children's homework; filmed insights into life in various countries in Europe and Africa (the latter a major film series called *The New Africans*, produced in co-operation with UNESCO and UNICEF); regular news analysis; and many other special features.

The number and range of CBC English radio public affairs programs are very extensive. Teams of writers and producers portrayed towns across the country for the program, *Soundings*, starting with Prince Albert, Sask., the riding of three Prime Ministers. *Between Ourselves* followed Newfoundland into Confederation, with Premier Joseph R. Smallwood telling the story. *Project 67* described Berlin, first as capital of Nazi Germany and as it is today. Dr. Jean Vanier told of his work near Paris with the mentally retarded. *The Trains*, a documentary series, brought vividly to life the truism that Canada lives by its railways. *The Best of Ideas* studied theatrical and political style down through the years. Six one-hour reports from the Couchiching Conference discussed *Great Societies and Quiet Revolutions*.

Offerings in news and public affairs on CBC radio included, among many, *The Human Condition*, a study of man's experience expressed in drama, music and documentary; *The Meaning of Mythology*; the International Teach-in on China; *Is NATO Obsolete?*; *The Perceiving Self*; the Massey lectures on *The Moral Ambiguity of America*; radio portraits of Robert Kennedy, J. S. Woodsworth, Louis St. Laurent, Daniel Johnson and Dag Hammarskjöld. Regular broadcasts of interest to farmers continued but *Country Magazine* in 1966-67 used the Centennial as a starting point for a series, *Fish, Fur, Forest and Farm*—

light-hearted but informative documentaries about these major Canadian industries. Again in that year, a farming special came from the International Plowing Match at Seaforth, Ont.

Programs on CBC radio marking Canada's Centennial included live actualities from across Canada; edited coverage of major and minor events on *Centennial Diary*; *Century*, the story of Canada in the words of the great and the not-so-great; *The Long Hundred*, using music and drama and reporting techniques to reflect the Canadian experience; *1967 and All That*, touring Canada for an often irreverent look at the celebrations; and programs about and from Expo.

On French-language television in 1966-67, school and university programming totalled six hours a week and programs in the field of adult education totalled about four hours a week. The subjects covered included French mathematics, biology, English literature, economics, Greek civilization and a medical refresher course for practising doctors. The French-language AM radio service broadcast approximately two and a half hours of formal education programs a week dealing with music, the French language, philosophy, history and geography. Adult educational programming on AM radio totalled about eight hours a week. University broadcasting, planned in co-operation with the University of Montreal, represented about 10 hours a week. Adult educational programming in both radio and television is general in character, intended to broaden the awareness and outlook of adults in a number of fields of economic, social and historical importance.

In public affairs, *Aujourd'hui*, on French-language television, offered a high-quality magazine-type program involving Montreal, Quebec City and Ottawa production points, with fresh documentation of seemingly familiar aspects of French-Canadian life such as the role of private schools and the French character of Canada's cities. Less dependent on actuality, *Le Sel de la semaine* has become a prestige program with leading world and Canadian figures; Eugene Ionesco, Marcel and Elise Jouhandeau, Paul Martin, Jean Lecanuet, Juliette Greco, André Courrèges and others have discussed their life and work and shown different facets of their personalities to the viewers. *Tirez au clair*, by its judicious choice of subject and of pairs of debaters, has used a confrontation formula to achieve striking polarity of views on important matters. The monthly program *Dossier* has produced documents of exceptional interest such as those on Picasso and on Sartre and de Beauvoir.

Many programs are directed to special audiences. Youth programs, for instance, although they have a special slant, nevertheless have the same wide range as those of interest to adults. *Jeunesse Oblige* covers classical music to jazz, sports to art, literature to folk singers. *Images en tête* initiates teenagers into a cinematographic culture and asks them to participate in creative work by joining amateur cine-clubs. For the younger children, *La Souris verte*, *La Boîte à surprise*, and *Viens voir* use the child's delight in poetry and art to open his eyes to the world around him. In all these programs, the child is asked to participate through projects, drawings and contests. Women's programs also cover a wide range of interests; *Femme d'aujourd'hui* deals not only with cuisine, decor and feminine beauty, but also with law, sociology, actualities, cinema, sports and the arts, such programs offering housewives a wide perspective of the world's events. Through entertainment, the network attempts to stimulate thought and to increase knowledge. *Atome et Galaxies*, *La Vie qui bat*, *Tour de Terre*, are entertaining by the way in which they present ideas but also, in addition to giving scientific facts, they suggest trends or patterns of behavior about which the viewer may draw his own conclusions.

Among the special Centennial programs presented on French-language radio were *l'Histoire... comme ils l'ont faite*, a tribute to the great men of Canada, and *Au jour le jour* which parallels the events of 1967 with those of 1867. The documentary, *Comment les Canadiens communiquent-ils entre eux?* showed the great importance of communications

in a country as vast and as sparsely populated as Canada. Also, regular programs were enriched in the Centennial year, including *Place aux femmes*, *Récital international*, and *l'Orchestre de Radio-Canada*, each in its own way contributing to the listener's knowledge of some facet of Canadian life.

Educational Functions of the National Film Board.—The National Film Board, an agency of the Federal Government, was established by Act of Parliament in 1939 and reconstituted by the National Film Act in 1950. In the years since its establishment, the Board has grown from a supervisory body over Canadian Government motion picture activities to a national documentary film-producing and -distributing organization whose films about Canada are seen wherever people may freely assemble. The Board produces and distributes filmstrips and still photographs on Canadian themes in accordance with its primary function outlined in the Act "to initiate and promote the production and distribution of films in the national interest". Films are produced primarily in the English and French languages and, whenever possible, foreign-language versions are prepared to increase the usefulness of Board films in foreign countries.

The 16mm. community film program is based on a nation-wide system of film circuits, film councils and libraries, strongly supported by organizations and individuals engaged in community activities. There are more than 700 national, provincial and community film distribution outlets from which thousands of 16mm. prints are available for public use throughout the country. These prints are acquired for circulation by purchase or by loan from the Board.

A large part of the 16mm. community film audience is reached through classroom showings, indicating progress in the development of audio-visual aid programs in Canadian schools and universities. Another noticeable trend is the more selective use of films by community organizations and groups for particular purposes. This is attributed in part to the availability of Board productions which present series of film studies related to central themes, and to the availability of a broad range of topics which include individual films particularly suited to group objectives and programs.

Films produced by the Board are shown in commercial theatres and on television in Canada and abroad, and newsreel features are also issued regularly for theatrical and television purposes. Distribution of theatrical subjects is arranged by contract with commercial distributing organizations.

Original films are shown regularly over English-language and French-language television networks in Canada. Individual films from the Board's extensive general library are available to CBC and privately operated stations. Abroad, because of expanding television facilities in many countries, Board films are seen by audiences which could not otherwise be reached.

In addition to commercial distribution through theatres and television in other countries, 16mm. print circulation is carried on through posts of the Departments of External Affairs and Trade and Commerce, through National Film Board territorial offices at London in England, Paris in France, New York, Detroit, Chicago and San Francisco in the United States, New Delhi in India, and Buenos Aires in Argentina, as well as through libraries operated by various education agencies. Hundreds of prints of National Film Board films are also sold in other countries each year. Exchange agreements are in effect between the Board and government film-producing organizations in other lands; this means that films of various nations are freely exchanged with those of Canada, aiding international understanding.

The National Film Board maintains a library of more than 150,000 still photographs, which are available at nominal cost to magazines, newspapers and other periodicals wishing to present current information about Canada.

Section 3.—The Canada Council

The Canada Council was created in 1957 by the Government of Canada, to "foster and promote the study and enjoyment of, and the production of works in, the arts, humanities and social sciences". It carries out its task mainly through a broad program of fellowships and grants of various types. It also shares the responsibility for Canada's cultural relations with other countries, and administers, as a separate agency, the Canadian National Commission for UNESCO.

The Council itself is an independent agency which reports annually to Parliament, through a member of the Cabinet, but sets its own policies and makes its own decisions within the terms of the Canada Council Act. It is made up of 21 members appointed by the Governor in Council. The Chairman and Vice-Chairman serve for terms not exceeding five years, and other members for terms of three years. The Council usually meets at least five times a year. The day-to-day administrative work is carried out by a permanent staff in Ottawa, headed by a director and an associate director who are appointed by the Governor in Council.

Income.—The Council's income is derived from three sources—an annual grant of the Canadian Government, interest from its Endowment Fund, and private donations. The largest source of income is the annual federal grant which amounted to \$17,000,000 for the year ended Mar. 31, 1968. This was the first annual grant made, but the policy was foreshadowed by an unconditional federal grant of \$10,000,000 made in April 1965. The federal action was accompanied by an announcement of generally increased aid to research, in recognition of the Council's program of aid to the humanities and social sciences; it will also make possible a needed expansion of the Council's aid to the arts. The second source of operating income is the Endowment Fund, of which only the interest may be used and which is expected to yield about \$3,400,000 in 1967-68. The original value of the Endowment Fund, established by Parliament when it created the Canada Council, was \$50,000,000. The most noteworthy, to date, of the special funds received from private donors is that from the estate of the late Dorothy J. Killam, which is expected to amount to \$16,000,000. Funds from private donations are used in accordance with the wishes of the donors.

Assistance to the Arts, Humanities and Social Sciences.—The Council's assistance is directed to both individuals and organizations. Assistance to individuals is mainly in the form of fellowships, scholarships and research grants. In its first ten years, the Council awarded scholarships and fellowships at the master, doctoral and post-doctoral levels to over 5,000 scholars in the humanities and social sciences, and to almost 1,400 performing and creative artists. Assistance to organizations, mostly in the arts, takes a large portion of the Council's revenues.

In 1966-67, the Council devoted approximately \$5,581,000 to the humanities and social sciences, of which \$3,565,000 financed 1,053 fellowships at the pre-doctoral and post-doctoral levels, and \$2,016,000 was applied to grants in aid of research, university libraries, meetings of scholars and artists, visiting lecturers, publication of scholarly works and other forms of assistance. In the arts, the Council spent \$4,352,000, of which \$594,000 was used to finance 186 scholarships and fellowships and \$3,758,000 was applied to grants, including about \$884,000 for music, \$415,000 for festivals, \$1,000,000 for the theatre, \$749,000 for dance and opera, \$469,000 for the visual arts and \$155,000 for publications. In accordance with growing need in these fields, and with the Canada Council's enlarged resources, aid has been increased considerably in the year 1967-68.

Special Programs.—Apart from its own programs, the Council administers on behalf of the Canadian Government a program of scholarships for students, scholars and artists from French-speaking countries (at present France, Belgium and Switzerland) wishing to come to Canada. In 1966-67, awards made by the Council under this program totalled \$630,000.

Prizes and Special Awards.—Under its power to “make awards to persons in Canada for outstanding accomplishments in the arts, humanities or social sciences”, the Council awards annually its own Canada Council Medal and the Molson Prize which is financed by funds from the Molson Foundation. It also finances the annual Governor General’s Literary Prizes, which are awarded by an autonomous committee.

UNESCO.—The Canada Council Act also provides for certain functions in relation to the United Nations Educational, Scientific and Cultural Organization (UNESCO). The Council has accordingly established a National Commission for UNESCO and provides its secretariat and budget. As an agent of the Council, the National Commission co-ordinates UNESCO program activities abroad, and administers a small program in furtherance of UNESCO objectives. In the year ended Mar. 31, 1967, the Council spent approximately \$167,000 through the National Commission for these purposes.

Section 4.—Library Services

The National Library.—The National Library of Canada came into existence formally on Jan. 1, 1953 by the proclamation of the National Library Act (RSC 1952, c. 330). On the same date it absorbed the Canadian Bibliographic Centre, which had been engaged in preliminary work and planning since 1950. The Act established a National Library Advisory Council consisting of the National Librarian who serves as Chairman, the Parliamentary Librarian and 12 appointed members, at least one of whom must be from each of the ten provinces.

The Library was housed for a long period in inadequate temporary quarters that limited its collections and activities. Construction of a permanent building, designed to accommodate both the National Library and the Public Archives, began in 1963 and was completed in the spring of 1967. The new structure, which has a floor area of 13 acres and was equipped initially with 81 miles of steel shelving, was opened formally by the Prime Minister on June 20. The book collection now consists of 400,000 volumes, supplemented by microcopies of more than 100,000 additional titles. Newspaper files formerly in several locations have been brought together and now form the largest collection in Canada.

The Library compiles and publishes *Canadiana*, a monthly catalogue of new books and pamphlets relating to Canada; more than 12,500 titles were listed in 1966.* *Canadiana* includes details of trade publications, official publications of the Government of Canada and the ten provinces, and of films and filmstrips produced in Canada.

The *National Union Catalogue* lists over 9,000,000 volumes in about 275 government, university, public and special libraries in all provinces. New accessions (which numbered over 750,000 in 1966-67) are reported regularly, and the Union Catalogue thus forms a continuously up-to-date key to the main book resources of the country. During the year ended Mar. 31, 1967, the Reference Division was asked to locate more than 49,000 titles, and it is noteworthy that copies of 80 p.c. of them were found in Canadian libraries.

The Library is completing a union list of serials in the fields of the humanities and social sciences that are being received currently by Canadian libraries, planned for publication in 1968. This list is a first step toward a complete union list of such serials in the humanities and social sciences that will complement the *Union List of Scientific Serials in Canadian Libraries* published by the National Science Library. The Library is also preparing for early publication a retrospective *Bibliography of Canadiana, 1867-1900*, which will list more than 25,000 titles.

* A list of 400 selected titles of “Books About Canada”, prepared by the National Library, appears in Chapter XXVII of this volume.

The National Science Library.—The National Science Library has two closely related roles—it serves the staff of the National Research Council engaged in pure and applied research, and it serves the entire scientific and industrial community of Canada by supplementing local and regional resources and services.

Plans for developing a central scientific library were proposed as early as 1924 by the Honorary Advisory Council for Scientific and Industrial Research, established in 1916 and now known as the National Research Council (see pp. 403-411). The Library grew slowly until 1928 when the Council's first research laboratories were set up. Since then it has been developed to parallel the growth and expansion of the laboratories and the national interests and activities of the Council with the result that in 1953, under an agreement with the more recently established National Library, the National Research Council Library formally assumed responsibility for national library services in the fields of science and technology. This responsibility was confirmed by Act of Parliament in 1966 (SC 1966-67, c. 26). In 1967, the President of the Association of Canadian Medical Colleges recommended to the Government that responsibility for national services in the medical and health sciences be assigned to the National Science Library. This recommendation endorsed the proposals of a study group made up of the deans of medical schools, medical librarians and representatives from the Medical Research Council and other appropriate government agencies.

The Library's collection, which is doubling in size every ten years, comprised over 683,000 volumes by the end of the year Mar. 31, 1967. The bulk of this material, including journals and other serials, books, pamphlets, and technical and research reports (many in microform), is housed in the main Library with smaller and more specialized collections in seven branch libraries.

The resources of the Library are made available by means of an extensive inter-library loan and photocopying service. For purposes of current awareness, the Library issues twice a month its *Recent Additions to the Library*, and a list of *Serial Publications in the Library* is also issued at frequent intervals through the use of data processing equipment. Reference and research services include answering requests for scientific information, literature searches and the compilation of abstracts and bibliographies, and the identification and location of obscure publications.

The Canadian Index of Scientific Translations, a card index to the location of completed English translations in Canada and other countries, is maintained by the Library. Translations of scientific articles prepared by the Library's Translations Section are listed and made available in Canada and abroad. A complete English translation of the Russian journal *Problemy Severa* (*Problems of the North*) is also the responsibility of this Section.

The National Science Library is responsible for the publication of the *Union List of Scientific Serials in Canadian Libraries* and the *Directory of Canadian Scientific and Technical Periodicals*.

Public Libraries.—Provincial governments have jurisdiction over public libraries but these are generally administered and regulated by municipal authorities; exceptions are Newfoundland and Prince Edward Island where the provincial governments maintain the public library service throughout the province. Municipal libraries serve the urban population and provincial and regional libraries serve the more widely scattered population. Summary results of the annual public library survey for 1965 are given in Table 1, with comparable totals for 1964. Circulation of books was 4.0 per capita in both years and current operating payments were \$1.53, in 1966 and \$1.40 in 1964. The full-time staff of the libraries numbered 3,464 in 1965, of whom 742 or 21.4 p.c. were professional librarians.

1.—Summary Statistics for All Public Libraries, 1965 with Totals for 1964

Province or Territory	Population Served	Libraries	Stocks of Books, Periodicals and Pamphlets	Circulation	Current Operating Payments	Full-Time Staff
	No.	No.	No.	No.	\$	No.
Newfoundland.....	498,000	3	321,836	701,575	231,720	27
Prince Edward Island.....	108,000	1	112,069	260,000	60,364	7
Nova Scotia.....	510,076	14	537,935	3,012,776	717,078	109
New Brunswick.....	226,159	7	244,584	1,444,026	315,314	56
Quebec.....	3,219,188	255	3,416,027	6,885,794	3,333,051	412
Ontario.....	6,159,861	306	9,709,489	42,091,472	16,275,007	1,795
Manitoba.....	580,381	21	783,286	3,485,364	1,322,378	172
Saskatchewan.....	454,026	74	885,607	3,023,770	1,483,796	177
Alberta.....	1,446,994	150	1,767,827	6,530,709	2,257,342	260
British Columbia.....	1,446,835	78	2,368,027	10,853,071	3,952,177	446
Yukon Territory.....	15,000	1	45,448	..	75,177	3
Totals, 1965.....	14,102,520	910	20,192,135	78,288,557	30,023,404	3,464
Totals, 1964.....	13,394,453	889	18,981,677	76,177,759	27,012,250	3,204

University, College and School Libraries.—Libraries in 79 universities and colleges having enrolments of 100 or more students reported more than 11,000,000 volumes in 1964-65. Because of the larger enrolment served, the number of volumes per student declined from 63.9 in 1963-64 to 57.8 in 1964-65. However, expenditures per student increased from \$90.08 to \$98.89 in the same comparison. The full-time staff was 489 higher but the proportion of professional librarians employed was slightly lower at 28.3 p.c.

2.—Libraries in Universities and Colleges, by Province, Academic Year 1964-65 with Totals for 1963-64

Province	Libraries	Volumes	Enrolment Served	Expenditures per Full-Time Student ¹
	No.	No.	No.	\$
Newfoundland.....	1	123,865	2,961	65.01
Prince Edward Island.....	2	31,407	888	29.80
Nova Scotia.....	9	700,100	9,307	95.34
New Brunswick.....	4	331,483	7,083	64.26
Quebec.....	15	2,723,283	51,353	84.04
Ontario.....	29	4,681,630	60,956	132.93
Manitoba.....	8	553,033	10,970	68.82
Saskatchewan.....	3	429,733	13,658	66.65
Alberta.....	4	589,046	14,417	113.54
British Columbia.....	4	978,115	21,021	95.19
Totals, 1964-65.....	79	11,141,695	192,614	98.89
Totals, 1963-64.....	77	10,225,891	160,072	90.08

¹ Full-time and equivalent.

In 1964-65 only 44.1 p.c. of the reporting 5,882 elementary and secondary schools had centralized libraries. Their total bookstock was 7,585,163 or 5.1 books per pupil served, approximately the same as in the previous year. Payments for books and other library

materials ranged from \$1.06 per pupil served in Newfoundland to \$5.88 in Saskatchewan, the average for Canada being \$2.86. Professional school librarians employed numbered 263, an increase of 12.5 p.c. over 1963-64 but still far short of requirements. In an attempt to fill part of the need, some professional librarians supervised several school libraries.

3.—Centralized School Libraries, by Province, School Year 1964-65 with Totals for 1963-64

Province	Libraries	Books	Enrolment Served	Payment for Books per Pupil
	No.	No.	No.	\$
Newfoundland.....	9	14,107	4,701	1.06
Prince Edward Island.....	7	11,982	3,750	1.39
Nova Scotia.....	58	133,721	34,007	1.19
New Brunswick.....	54	146,923	32,369	2.18
Quebec.....	964	2,421,052	442,478	2.11
Ontario.....	814	2,530,101	578,432	3.10
Manitoba.....	75	325,983	53,126	3.03
Saskatchewan.....	75	253,086	32,394	5.88
Alberta.....	277	754,376	131,408	3.35
British Columbia.....	262	993,832	181,258	3.42
Totals, 1964-65.....	2,595	7,585,163	1,493,932	2.86
Totals, 1963-64.....	2,602	7,625,832	1,461,919	2.63

Libraries in provincial post-secondary institutions surveyed in 1964-65 included libraries in 66 technical institutes and trade schools across Canada, 69 *écoles normales* in Quebec, 10 teachers' colleges in Ontario and one each in Nova Scotia and New Brunswick. In the 66 technical institutes and trade schools, bookstock per pupil was 12.0 volumes and operating expenditures per pupil \$19.55. The 69 *écoles normales* in Quebec reported 8,332 students, 79.7 volumes per student, and an operating expenditure of \$34.16.

4.—Libraries in Technical Institutes, Provincial Trade Schools and Teachers' Colleges, School Year 1964-65¹

Province	Full-Time Enrolment	Books, Periodicals and Pamphlets	Staff	Total Operating Expenses of Libraries
	No.	No.	No.	\$
Newfoundland.....	687	1,150	1	14,700
Nova Scotia.....	626	12,818	2	20,545
New Brunswick.....	2,264	38,357	22	30,260
Quebec.....	18,150	868,801	98	454,530
Ontario.....	12,002	159,570	26	149,251
Manitoba.....	1,407	2,205	7	—
Saskatchewan.....	1,097	16,043	7	53,802
Alberta.....	3,996	21,790	4	51,639
British Columbia.....	2,030	16,090	4	70,085
Totals.....	42,259	1,136,824	166	844,812

¹ Includes statistics of 66 technical institutes and 81 teachers' colleges.

Library Education.—In 1966, the five Canadian library schools awarded 309 Bachelor of Library Science degrees. Many more professional librarians are needed to raise service to acceptable standards, especially in public and secondary school libraries. Table 5 contains data on 308 of the graduates, 67.9 p.c. of whom were women. University libraries absorbed 44 p.c. of these graduates, 31 p.c. secured positions in public libraries and the remainder now serve in government and special libraries or in other countries. Quebec and Ontario employed 65 p.c. of them. Median beginning salaries ranged from \$5,600 in Quebec to \$6,000 in Ontario and British Columbia. School librarians received almost \$1,800 more per annum than public librarians since the former often have teacher training as well as teaching experience.

5.—Library School Graduates, 1966 with Totals for 1965

Library School at—	Graduates		Destinations				Median Beginning Salary
	Male	Female	Public Library	University Library	School Library	Other and Unknown	
	No.	No.	No.	No.	No.	No.	\$
McGill University.....	5	10	1	10	1	2	6,100
University of Montreal.....	43	29	17	29	11	5	5,600
University of Ottawa.....	8	19	3	13	1	4	5,600
University of Toronto.....	23	106	40	39	29	11	6,000
University of British Columbia.....	20	45	24	29	4	1	6,000
Totals, 1966¹.....	99	209	85	120	46	23	6,000
Totals, 1965.....	62	187	78	125	26	31	5,493

¹ Includes 11 Master of Library Science graduates from McGill University.

6.—Median Salaries of Librarians in Professional Positions, 1965

Position	Public Libraries in Centres of over 25,000 population	Regional and Co-operative Public Libraries	Provincial Public Library Services	University and College Libraries (1964-65)
	\$	\$	\$	\$
Chief Librarian.....	7,889	7,036	8,875	9,350
Assistant Chief Librarian.....	7,875	5,958	...	8,900
Division, Department or Branch Head.....	7,022	5,208	8,000	6,931
General Librarian.....	5,667	5,809	6,250	5,656

CHAPTER VIII.—SCIENTIFIC AND INDUSTRIAL RESEARCH

CONSPECTUS

	PAGE		PAGE
SECTION 1. THE NATIONAL RESEARCH COUNCIL OF CANADA.....	403	SECTION 5. OTHER SCIENTIFIC AND INDUSTRIAL RESEARCH FACILITIES.....	421
SECTION 2. RESEARCH IN THE ATOMIC ENERGY FIELD.....	411	Subsection 1. Federal Organizations.....	421
SECTION 3. SPACE RESEARCH IN CANADA.....	417	Subsection 2. Provincial Organizations.....	422
SECTION 4. RESEARCH IN GEOPHYSICS AND ASTRONOMY.....	419	Subsection 3. University Research.....	425
		Subsection 4. Industrial Research and Development.....	426
		SECTION 6. FEDERAL GOVERNMENT EXPENDITURES ON SCIENTIFIC ACTIVITIES.....	431

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

The characteristic problems of this country, particularly its large area, its small population and its unique industrial structure, have led to a typically Canadian organization of research. Early research was, of course, related to the primary industries. Geological mapping and agricultural research were almost the only areas of activity until the beginning of the present century. In 1898 research in the field of fisheries was assigned to an independent honorary board which has continued to the present as the Fisheries Research Board. In 1916 the Federal Government set up the National Research Council; its early duties were to encourage and stimulate research in the universities through grants and scholarships and it entered active research only with the establishment of its own laboratory system in the late 1920s and early 1930s. Great expansion in scientific research took place during the War when the National Research Council assumed the responsibility for research for the three Armed Services including the development of atomic energy. At the end of the War, the Council returned to its previous activities—the promotion of research in the universities and research for secondary industry. In 1947, the Defence Research Board was set up in the Department of National Defence with responsibility for military research (see Chapter XXVI). In 1952, the Crown corporation, Atomic Energy of Canada Limited, was established to proceed with the development of atomic energy in Canada, and certain other Crown corporations, such as Eldorado Mining and Refining Limited, Polymer Corporation Limited and Canada's largest national utility, the Canadian National Railways, developed important research programs.

Until the 1960s, industrial research was slow to develop in Canada, although certain large industries, particularly the chemical industry and the pulp and paper industry, had long histories of successful research effort. Research councils or foundations were set up by several provinces to improve industrial production efficiency (see pp. 422-424); of these, the Ontario Research Foundation and the British Columbia Research Council, although established under provincial legislation, are self-governing institutions engaged in research and development on contract for manufacturers, departments of government and on their own account, and derive their current revenue mainly from sponsored research. The Pulp and Paper Research Institute of Canada (see Forestry Chapter) is the one major research association that operates on a co-operative basis; its operating funds are provided by industry and its facilities by the Federal Government and McGill University, all three

vitaly interested in ensuring that this industry maintains its competitive position in world markets. However, through the years the primary resource base of industry generally was not conducive to the establishment of industrial research laboratories. Also, the prevalence of foreign-owned manufacturing companies exerted considerable influence on the development of industrial research. Canadian subsidiaries of foreign companies had ready access to the research and development results of their parent companies and Canadian companies had little incentive to establish their own laboratories or to develop products specifically for the Canadian market. But now, Canadian industry across the country is greatly extending research facilities and becoming much more aware of the advantages to be gained therefrom. To meet the challenge of competition from other countries in the manufacture of ultra-modern production, it is impressively stepping up its own scientific and technical studies. The Sheridan Park Research Community, just outside Metropolitan Toronto, is an example of the latest concept for improving the efficiency of industrial research undertaken in Canada. A somewhat similar development has taken place at Pointe Claire, near Metropolitan Montreal. Industrial research centres of this type greatly facilitate the applied scientific process for the scientists involved by permitting ready interchange of non-proprietary scientific information and ready access to a wide variety of instrumentation, equipment and skills. They also provide an attractive environment for scientific personnel, and thus increase Canada's potential for keeping its trained scientists. At Sheridan Park the research laboratories of nine individual companies are now in full operation and there is room for further corporate participants. A Conference Centre is being built, and the community members have formed themselves into an Association to promote and expedite many other mutually desirable arrangements.

Thus, there are three main sectors of research in Canada—government research, university research and research in industry. These three elements are covered in some detail in the following Sections and Subsections.

Mechanism for the Federal Science Policy.—In the federal sphere, the ultimate authority for policy on science resides in the Cabinet. To exercise this authority there was established by the Research Council Act (RSC 1952, c. 239, as amended) a Cabinet committee known as the Committee of the Privy Council on Scientific and Industrial Research. This Committee comprises those Cabinet Ministers having departments with major scientific responsibilities and certain other Ministers who have an indirect concern with scientific affairs. These federal departments and agencies advise the Privy Council Committee on the scientific aspects of their own departmental responsibilities and on the organization and support of research required for their own purposes. For many years, the National Research Council, on the other hand, advised the Committee on general science policy, particularly on research in the universities, in industry and in fields not specifically the responsibility of the departments or agencies. Then, in 1949, the Privy Council Committee broadened the structure of its advisory mechanism by the addition of an advisory body of senior officials to which it might turn for joint advice on the formulation and conduct of government scientific policies.

In 1964, as a result of the recommendations of the Royal Commission on Government Organization, a Science Secretariat was created in the Privy Council Office with the task of assembling and analysing information on the Government's scientific and technological activities, including interrelationships with university, industrial and provincial scientific establishments. In 1966, the Government established the Science Council of Canada with the duty of assessing Canada's scientific and technological resources, requirements and potentialities, and making recommendations thereon. The Science Council is concerned both with research and with the use of science and technology in the solution of Canada's economic and social problems. It reports to the Prime Minister and draws its membership from industry, the universities and government, and its professional and administrative support from the Science Secretariat. In its first year, the Council initiated intensive studies of science and technology in Canada to provide a basis for advice on the formulation of policies and plans for the future.

Section 1.—The National Research Council of Canada*

Organized research in Canada on a national basis dates from 1916 when the Government of Canada established the National Research Council. From an initial budget of \$91,600 (only \$50,375 was actually expended) to one of \$89,000,000, the Council has expanded until now it has some 45 Associate Committees studying a wide range of problems, supports the research efforts of 2,500 university scientists and awards 1,900 scholarships, bursaries and postdoctorate fellowships. In recognition of its activities in support of research in the universities during the past 50 years, the Council has established a group of scholarships called the 1967 Science Scholarships, awarded for the first time in 1967. These awards are intended to encourage young men and women of outstanding intellectual promise to pursue postgraduate studies and research leading to doctorate degrees in science and engineering in Canadian universities other than the ones from which they obtained their first degrees. It is hoped that these awards will stimulate exchanges between different cultural and geographical regions of Canada, in keeping with the aims of the commemoration of the 1967 Centennial of Confederation.

The planning and integration of research work, organization of co-operative studies, postgraduate training of research workers, and prosecution of research through grants to university professors formed the basis of the Council's work from 1916 to 1924. As early as 1918, the creation of a central research institute to carry on research in pure science in relation to standards of measurement, quality and composition of material, and research in science applied to the industries of Canada, had been urged and a special committee of Parliament endorsed the proposal. Temporary quarters were secured in 1925 and research on magnesian refractories for steel furnaces was carried out so successfully that an industry established during World War I was re-established on a large scale. As a result of this achievement, the Government in 1929-30 provided funds for new research facilities. The National Research Building on Sussex Drive in Ottawa was opened in 1932 and in 1939 construction was begun on an aerodynamics building located on the Montreal Road, just east of the city. This site now comprises some 400 acres and houses most of the Council's laboratories. A prairie Regional Laboratory built on the campus of the University of Saskatchewan in Saskatoon has been in operation since June 1948 and an Atlantic Regional Laboratory on the campus of Dalhousie University in Halifax since June 1952.

Under the terms of the Research Council Act, the Council has charge of all matters affecting scientific and industrial research in Canada that may be assigned to it by the Committee of the Privy Council on Scientific and Industrial Research. In discharging these responsibilities, the Council may undertake, assist or promote research. Its duties include the utilization of Canada's natural resources; the improvement of industrial processes and methods; the discovery of processes and methods likely to expand existing industries or to develop new ones; the utilization of industrial wastes; investigation and determination of physical standards, methods of measurement, and fundamental properties of matter; the standardization and certification of scientific and technical apparatus used by government and industry; the determination of standards of quality for materials used in public works and government supplies; investigation and standardization, at the request of industry, of industrial materials or products; and research intended to improve conditions in agriculture. As a service to Canadian science, the Council maintains scientific liaison offices in Ottawa, London, Washington and Paris. The liaison officers abroad also serve as scientific attachés in the Canadian diplomatic missions. The National Research Council Library, with holdings of more than 683,000 volumes in science and technology (including 15,000 journals and other serials), acts as the National Science Library of Canada (see also p. 397).

The Council's laboratories are organized in ten divisions and two regional laboratories, each with its own director. Six divisions are engaged in applied and fundamental studies in the natural sciences—biosciences, applied and pure chemistry, applied and pure physics and radiation biology. Four others are devoted chiefly to engineering work—building re-

* Revised by Joan Powers Rickerd, Public Relations Office, National Research Council of Canada, Ottawa.

search, mechanical engineering, radio and electrical engineering, and the National Aeronautical Establishment. The two regional laboratories carry out research related to the resources of the Prairie and Atlantic regions. A Medical Research Council, responsible for the support of medical research but functioning under the general administration of the National Research Council, was established in November 1960 (see p. 302).

The National Research Council consists of the President, two Vice-Presidents (Scientific), one Vice-President (Administration) and 17 other members, each of the latter group being appointed for a term of three years and chosen to represent industry, labour, and research in science and engineering. Many of the members are drawn from Canadian universities. The Council reports to the Committee of the Privy Council on Scientific and Industrial Research through a Minister designated by the Governor in Council for the purposes of the National Research Council Act.

The Council's 1966-67 budget, excluding the provision for the activities of the Medical Research Council, is about \$89,000,000, approximately \$34,000,000 of which is required for foundation work—scholarships and research grants in science and engineering. The remainder is used to operate the laboratories and to provide for the Council's industrial research assistance program. Of the Council's 2,919 employees, 838 are scientists and engineers.

Links with Industry.—The application of science to Canadian industry has always been one of the major concerns of the National Research Council. Since 1917, representatives of industry, government and the universities have co-operated, through NRC Associate Committees, in solving pressing industrial and economic problems. There is a constant flow of personnel and information between NRC laboratories and those of industry, and roughly 70 p.c. of the Council's own effort involves applied research intended for industrial use. Contract research on specific projects and a wide variety of testing and standardization work are undertaken. Inventions from NRC laboratories are carried through the patent stage, then made available for manufacture through Canadian Patents and Development Limited (see p. 144).

A most important activity of the Council is its Technical Information Service, which consists of field engineers who visit manufacturing establishments, and a staff of trained researchers in Ottawa who use the technical literature available through the Council's Library. Although all inquiries are handled, the Service is particularly interested in helping small firms with no research or information facilities. Free advice is given on all aspects of materials and processing, equipment, plant design and packaging and on such topics as wage incentives and inventory control.

Direct financial assistance for research performed by Canadian industry was begun by the Council during 1962. Under this arrangement the Council makes grants supporting long-term applied research and development work proposed and carried out by industry. Aid is given on a shared-cost basis, with industry supplying at least half the funds for any one project. Companies of all sizes, representing a wide range of industrial activity, are eligible for assistance and the companies retain all rights arising from the work. In 1966-67, at a cost of \$5,300,000, the Council supported 31 new research projects and 118 continuing projects in 91 Canadian firms. This work gave rise, also, to over 700 new research positions.

Biosciences.—The program of the Division of Biosciences covers practical problems related to the national economy and fundamental studies that may contribute useful information in such areas as agriculture, medicine and certain industries. Apparatus and techniques for preparing, preserving and storing food make up a large part of the applied work and particular attention has been given recently to food freezing, cold storage in jacketed rooms and refrigerated transport. Study and testing have continued on a process now widely used in industry for the immersion freezing of poultry, quality loss in poultry meat during freezing and refrigerated storage, and an improved cooling system for frozen food trucks. The physical and chemical reactions influencing coagulation in

evaporated milk during sterilization are being investigated. Microorganisms related to food are studied, particularly those that grow in cheese, in high salt concentrations and at low temperatures. Model systems for the study of freshwater microbial ecology are under investigation. A national culture collection of about 3,000 yeasts, bacteria and fungi is maintained.

Considerable effort is devoted to questions of animal and plant physiology. Studies of the mechanisms by which mammals, birds and man adapt to cold have provided important basic information on cell, muscle and metabolic activity, and help to explain practical problems such as the high death rate of newly born caribou. Fundamental plant processes such as translocation are investigated, and a study is being carried out on strains of blue-green algae believed responsible for cattle deaths. Plant fibres such as cellulose—the skeletal material of plants—and the structure and function of plant cell components are also examined.

Other studies involve fermentation mechanisms and enzymology, and the structures of proteins, polysaccharides and lipids. One group, among its other projects, is engaged in long-term statistical studies of protein variability in wheat, a factor that influences overseas wheat sales. The work has been expanded recently to include the effects of weather factors on protein content.

Radiation Biology.—The general objective of the Division of Radiation Biology is to undertake fundamental research into the effects of radiation on living things and their components. This is best done by combining the efforts of scientists in several biological disciplines. The Division is still in its formative stage, awaiting the completion of a new laboratory at the end of 1967.

To date, biochemical studies have included theoretical studies of radiation doses resulting from internal contamination of workers, the action of X-rays on purified enzymes, the action of ultraviolet light on nucleic acid components, and the metabolism of radioactive tellurium in animals. The most prominent causes of death of animals or men from exposure to ionizing radiations are destruction of the blood-forming tissues (spleen and bone marrow) and severe damage to the intestinal wall; in addition, sub-lethal doses of radiation cause immediate destruction of lymphatic tissues such as the thymus gland. Therefore the Division has devoted considerable effort to investigating the effects of gamma-rays on these three types of tissues.

Applied Chemistry.—The Division of Applied Chemistry is concerned with supplying new scientific information for the development of Canada's natural resources and chemical industries. Although formerly much of the work involved the solving of immediate specific problems, a larger part of the effort is now being devoted to more basic studies. This avoids conflict with industrial laboratories and consultants and, in addition to providing fundamental information, often produces practical results. For instance, a long-term investigation on the contacting of fluids and solids—an operation vital to many chemical engineering procedures—has resulted in a successful commercial operation for drying grain. The same method has been extended to chemical reactions and to removing liquids from other materials.

Another long-term project of considerable industrial potential has concerned the factors responsible for the stability, or the destruction, of suspensions of solids in liquids and a method was devised for easily separating almost any suspended solid from the liquid surrounding it. The same technique can be used to prepare dense spherical agglomerates of selected composition. Work on separation processes has been expanded to include the separation of dissolved solids. It has been shown that virtually all dissolved salts can be removed from water by filtration through an appropriate medium, and tests with other materials are in progress. Then, too, the study of chemical reactions at very high pressures—carried on over the past several years—has resulted in the successful preparation of a stable polymer that could not be produced by conventional means. The development of a procedure for anodically depositing metal oxide films resulted from

long-term studies on metallic corrosion. These films may have considerable potential as decorative or protective coatings, or to impart desirable electrical properties to the deposited layer.

The 11 sections of the Division are: analytical chemistry, chemical engineering, colloid chemistry, high polymer chemistry, high pressure, kinetics and catalysis, metallic corrosion and oxidation, metallurgical chemistry, physical organic chemistry, hydrocarbon chemistry and textile chemistry. Much of the work falls under the general headings of petroleum or metal chemistry, in that several sections work on topics related to one of these fields.

Pure Chemistry.—The Division of Pure Chemistry has a small permanent staff that works in collaboration with about 50 young postdoctorate fellows from all over the world. The work consists of long-term fundamental investigations in organic, physical and theoretical chemistry designed to provide new basic knowledge.

The work in organic chemistry includes investigations of the structures of alkaloids, studies of the infrared spectra of steroids, and the synthesis of nucleic acids, porphyrins and of compounds labelled with isotopes. Other groups deal with chemical kinetics and photochemistry, the study of the ionization potentials of free radicals by mass spectrometry, Raman and infrared vibrational spectroscopy, organic crystal semi-conductors, and the application of high resolution proton magnetic resonance techniques to the study of hydrogen bonding and other molecular interactions. Still others investigate the thermal properties of simple solids, the heats of micellization by microcalorimetry, and the thermodynamics and stress-strain relationships associated with the adsorption of fluids by active carbons. Theoretical studies cover quantum-mechanical and many-body problems.

Applied Physics.—The work in applied physics is divided between research in fields of physics deemed most likely to contribute in a practical way to the Canadian economy and research to improve the accuracy and precision of fundamental physical standards on which all measurements are based. All the fundamental physical standards for Canada are the responsibility of the Applied Physics Division, which has primary standards equal to any in the world in the fields of mass, length, time, electricity, temperature, photometry and radiation. The sections of the Division are: acoustics, diffraction optics, electricity, heat and solid state physics, instrumental optics, interferometry, mechanics, photogrammetric research, radiation optics, and X-rays and nuclear radiations.

Examples of specific projects under way include a study of physiological noise and its relationship with the threshold of hearing, resulting in the development of a new probe microphone which should find wide application in sound measurement; new precision and accuracy are envisaged for audiometers of great importance in connection with hearing loss in industry and elsewhere; researches directed toward improving the resolving power of optical systems, the design of a hydrogen maser offering potential as a frequency standard for defining time, measurements on various metals and ceramics aimed at elucidating the mechanism of heat transfer at high temperatures, the establishment of an international standard neutron source, and investigation and application of the very intense and very monochromatic radiation emitted by gas lasers. Several of the Division's developments are being produced commercially; among these are noise-excluding ear defenders, a revolutionary analytical plotter for making maps from aerial photographs (available in two models—one for military and the other for civilian use), six- and five-figure potentiometers, a precision direct reading thermometer bridge, an instrument for measurement of resistance to a precision of one part per million, and a new instrument for measuring more accurately and quickly electrical voltages of up to 3,000 volts.

To permit standardization of X-rays and nuclear radiations at higher energies and for general research in the energy range, the Division is currently installing a 4-MeV Van der Graaff generator and a 40-MeV linac facility which will be in full operation sometime in 1968.

Pure Physics.—Investigations are under way on cosmic rays and high-energy particle physics, solid state physics, laser and plasma physics, spectroscopy, and X-ray diffraction. The work is on fundamental problems which do not have immediate application but advance the frontiers of knowledge and supply the basis for further progress in the applied fields. Important advances in the study of cosmic rays and energetic particles are being made by means of a specially designed instrument package operating aboard the Canadian earth satellite *Alouette II*. The package is sending back vital new information about the Van Allen radiation belts and about the artificial belts created by atomic explosions.

The solid state group studies the electrical, thermal and mechanical properties of metals and semi-conductors especially at very low temperatures. The laser and plasma physics group, established in 1962, has already made an important contribution by observing the scattering of a ruby-maser beam by a plasma. This study leads to a determination of electron temperature and electron concentration. In the spectroscopy group, the structures of atoms and molecules are investigated by means of their microwave, visible and ultra-violet spectra, and considerable work has been done on optical masers.

The X-ray diffraction laboratory undertakes fundamental work in molecular and crystal structure and identification problems for government laboratories. Two of the major projects concern narcotics and vanadium minerals. X-ray diffraction methods are extremely valuable for identification purposes as they are non-destructive and require only very small amounts of material.

Building Research.—The provision of a comprehensive research service for the construction industry of Canada is the primary concern of the Division of Building Research. Its program therefore covers various aspects of construction, building design, building materials and components, fire research, and studies in soil, snow and ice mechanics; it also serves as the technical research wing of the Central Mortgage and Housing Corporation. Regional stations located at Halifax, N.S., Thompson, Man., Saskatoon, Sask., Vancouver, B.C., and Inuvik, N.W.T., assist in the research and information functions of the Division.

Division projects are concerned with: the behaviour of cement, concrete, mortars, plasters, plastics and sealing and caulking compounds; atmospheric corrosion of metals and paint research; acoustics research; the over-all performance of foundations, walls, windows and roofs; humidity in buildings; air-conditioning design; snow and wind loads on structures; the properties of various soil types including permafrost and muskeg; and the effects on buildings of ground vibrations caused by earthquakes. A fire research laboratory contains facilities for studying the initiation, development and extinguishment of building fires as well as for fire tests on materials and structures.

Because concentration is placed on building problems peculiar to Canada, much of the work concerns the performance of buildings and building materials in cold weather. Double-glazed windows and lightweight metal and glass curtain walls, used increasingly in modern buildings, have been examined, improvement of winter building techniques have been studied, and the work of one section is devoted to problems of building in the Far North. Educational work is conducted in a number of directions to alert the designers, manufacturers and others to new principles and new information as well as to design features that should be avoided. Similar liaison exists with federal and provincial public works departments and many useful field studies have been made on public and privately owned buildings.

Many results of the Division's research are used in the improvement of the National Building Code, an advisory document offered as a model building by-law, and now used by municipalities accounting for about three quarters of the urban population of Canada. The Division also provides the secretariat and considerable technical assistance to the Associate Committee that produces the Building Code on behalf of the National Research Council.

Mechanical Engineering.—Although this Division of the National Research Council is concerned broadly with problems in mechanical engineering, the form of current developments in Canada naturally requires a reasonably sharp specialization within this broad field. Despite pressure in the engineering world for immediate results, it is essential that this type of work be supported by a substantial foundation of general research.

In the present vigorous stage of engineering development in Canada, the general work of the Division is being related to the thermodynamic aspects of engineering production by conventional machinery and by application of fluid mechanical principles to the generation of extreme temperatures in high pressure gases. In support of the human contribution to higher productivity, the other general body of work relates to the behaviour of the human operator—his dexterity and capability and the effects on his performance of fatigue, lack of sleep, and alcohol. The more specific activities of the Division are related to processes of production and to transportation.

Production.—The primary production activities of the Division are comparatively recent and pertain to the development of instrumentation for assisting in the refining of copper. This work is supplemented in the metallurgical field by the modelling, by computer techniques, of the refining processes for steel production.

In the manufacturing aspects of mechanical engineering, the Division has long been active in the solution of problems—both thermodynamic and mechanical—of the different kinds of heat engines and is concentrating on matters particularly pertaining to diesel engines and gas turbines. It is introducing in its Experimental Shops improvements and refinements in a number of manufacturing processes, such as the precision grinding of gearing, electrodischarge machining, and electrochemical machining, which experimental work may prove of interest and use to various manufacturers. As a subsidiary part of the work on manufacturing techniques, the Division has in hand a substantial body of development work related to the improvement of surgical instruments and apparatus, the first of which is now going into commercial production.

Transportation.—Because the dimensions, topography and trade pattern of Canada render all forms of transportation of primary consequence to the economic and social well-being of the country, there has been, for a number of years, substantial research activity in this direction. The land transport work has arisen from problems with urban bus systems and from problems (mostly mechanical) arising from railway operations. Programs are under way or completed relating to the operation of diesel locomotives on a wider range of fuels, to the improvement of air brake operation in winter, to the braking and running smoothness of long trains, and, recently, to the improvement of remote switching necessary for Central Traffic Control.

In the area of sea transport, the Division is concerned with ship design and canal and harbour facilities arrangements. In the former category, a steady procession of new designs passes through the Ship Laboratory for investigation of hull lines, propeller design, steering and rough water characteristics, supplemented by a program of work at sea on the stresses on ships due to running in rough water. Regarding the improvement of harbours, work is vigorously under way on a model of the St. Lawrence River extending from Montreal to Father Point, the object of which is to lend the maximum possible scientific impetus to the development of the Port of Montreal.

In the field of air transport, the problem confronting Canadian manufacturers is the selection of types of aircraft which can be sold in sufficient numbers in world markets to justify the development costs. Although there is always doubt concerning the best course of action to be followed in this type of venture, the activities of the Division are being concentrated on acquiring a reasonably wide-based and intimate knowledge of the possible machinery arrangements for civil vertical take-off aircraft, which are believed to represent one of the great aeronautical opportunities of the future in both rural and inter-urban types of operation.

Since many of the Division's facilities are not duplicated elsewhere in Canada, it is part of the working policy of the Division to assist manufacturers with the testing of a great variety of products.

National Aeronautical Establishment.—The National Aeronautical Establishment conducts aeronautical research to meet the needs of military and civil aviation, working in co-operation with the Canadian aircraft industry; it also carries out its own research program. Its studies therefore centre around problems of aerodynamics, aircraft structures and materials, and flight mechanics. It has the only development wind tunnel facilities in Canada and is thus equipped to handle most of the industrial or military aircraft developments of the foreseeable future. Aerodynamics research from low speeds up to about $4\frac{1}{2}$ times the speed of sound is carried out in the wind tunnels; considerable attention is being given at present to low-speed problems of vertical and short take-off aircraft. Other studies include work on the aerodynamic characteristics of high-thrust propellers, on wings with submerged fans and on wings immersed in powerful slip-streams. The research on structures and materials involves investigation of aircraft accidents, the theory of structures, fatigue and fracture, flight loads statistics and aircraft hydraulics. The flight mechanics program covers research on flight safety and flying stability and control, the development of a crash position indicator for locating crashed aircraft, atmospheric physics, anti-submarine magnetometry, and the avoidance of aircraft collisions.

A growing and highly diversified program of assistance to smaller industries is developing, the work relating mainly to product development, product improvement or testing. Concerning aircraft utilization, efforts have been directed toward those areas of national activity where aerial methods might offer economies in cost or improvements in effectiveness, such as agricultural applications, forest fire fighting, aerial logging, high sensitivity magnetic surveys, precipitation physics, and studies of atmospheric turbulence.

Radio and Electrical Engineering.—The work of this Division includes electrical engineering problems of interest to industry and fundamental research in electrical science. The Division co-operates with the Armed Services and associated industries in designing, producing and evaluating new equipment.

The engineering program includes studies of corona loss and radio interference from extra-high-voltage direct-current transmission lines, rocket telemetry, antenna development, electromedical instrumentation, electronic aids to navigation, and high-frequency standards. The Division maintains the best-equipped antenna laboratory in Canada and provides considerable assistance to Canadian industry in the development and manufacture of new antennas and radomes. Examples of recent developments by the Division are a compact transistorized marine radar for use by pleasure craft and fishing vessels, an underwater crash position indicator for locating submerged aircraft, an area display electrocardiograph showing the time variation of heart voltage between 70 points on the body, and a creative tape recorder much in demand by electronic music studios. A highly mobile counter-mortar radar designed by the Division went into commercial production in 1961.

Fundamental studies are carried out in the fields of radio astronomy, upper atmosphere research, electron physics, and solid state physics. At the Algonquin Radio Observatory in Algonquin Park, Ont., a radiotelescope having a parabolic reflector 150 feet in diameter has been in operation since mid-1966 and has proved to be the best of its size in the world.

Space Research Facilities.—The function of the Space Research Facilities Branch of the National Research Council is to develop and provide facilities to meet the needs of the upper atmosphere and space research programs of Canadian scientists in universities and government agencies (see pp. 417-419). At present its work is restricted primarily to the use of sounding rockets. The major facility is the Churchill Research Range which is operated for the benefit of Canadian and American scientists and has a joint Canadian-American funding. It has capabilities for launching many kinds of sounding rockets and

balloons carrying scientific experiments to investigate the earth's upper atmosphere. Associated ground-based instruments are available to study the aurora borealis by photographic and spectro-photometric methods. The Branch also operates the satellite tracking and data reception station near St. John's in Newfoundland and the Great Whale Geophysical Station at Poste-de-la-Baleine in Quebec.

The Branch is generally responsible for the implementation of the sounding rocket program, providing the vehicles and incorporating the scientific experiments into suitable payloads, with associated telemetry and other devices; this work is carried out mainly by industrial contracts. The work of the Branch also includes the reduction of flight data to provide vehicle trajectory and attitude information to experimenters, and the provision, from the telemetered information recorded on magnetic tape, of data required by individual scientists in any form desired.

Atlantic Regional Laboratory.—The Atlantic Regional Laboratory is engaged in practical and fundamental studies in chemistry and biology, which are related to the resources and industries of the Atlantic Provinces. Such studies include investigations of: the biochemistry and physiology of marine algae, fungi, bacteria, lichens, mosses and higher plants; the chemistry of naturally occurring organic compounds; and the physical chemistry of inorganic compounds at high temperatures. A major objective is to develop varieties of seaweeds with enhanced commercial value and to investigate the growth and cultivation of seaweeds and other marine algae. Surveys are being made to reveal new sources of seaweeds. An applied project on toxic microfungi in pastures is being carried out in collaboration with the Canada Department of Agriculture at Nappan, N.S. Fundamental studies on inorganic reactions at high temperatures are expected to give information of value to the steel and glass-making industries. Research in organic reactions includes work on methods of synthesis which may eventually have industrial value. Some of the work in biochemistry and physiology is related to medicinally important compounds such as antibiotics and drugs that affect mental processes.

The Laboratory has a close working relationship with Dalhousie University at Halifax, under which arrangement students acceptable to the University's Faculty of Graduate Studies may carry out research in the Laboratory under the direction of Laboratory staff members holding unpaid appointments in the Faculty. The immediate aim of this arrangement is to expand the facilities for graduate studies in the Atlantic region; the long-term objective is to help create a strong scientific background conducive to large-scale development by industry.

Prairie Regional Laboratory.—One of the aims of the Prairie Regional Laboratory is to develop wider uses for crops grown on the prairies by determining potential uses of crops now in production and by encouraging the production of new crops to meet specific needs. The Laboratory program is carried out by five sections: the physiology and biochemistry of fungi section, physiology and biochemistry of bacteria, plant biochemistry, chemistry of natural products, and the engineering and process development section. Research is therefore carried out on the properties and reactions of plant components, and on the biological, chemical and engineering processes for turning them into other compounds. The development of oil-seed crops as alternatives to seed crops has received considerable attention.

For some time, the Laboratory has studied major plant constituents such as carbohydrates, protein, starch, lignin and fibres. An example of this work is the definition of the chemical structure of several polysaccharides found in cereal grains and important in baking, milling and fermentation technology. Attention is also being given to minor plant constituents, such as phenols, flavonoids and terpenes, which are known to have fungicidal and germicidal properties. A laboratory has been set up for the systematic study of extractives from local plants and shrubs.

Developments from the Laboratory attracting commercial interest are: the production of feed supplements by direct use of microorganisms, and specific essential amino acids

such as lysine; poly-hydroxy alcohols such as glycerol and arabitol; hydroxy fatty acids; and the possibilities of producing specific glyceride types using the enzyme systems of microorganisms. The Laboratory works in co-operation with the Canada Department of Agriculture to help maintain Canada's position as the world's leading exporter of rapeseed, used to produce cooking oils, dressings and oil for use in margarine and shortening. A group working in the field of mycology is concerned with the production of new chemicals, antibiotics, alkaloids and amino acids.

Section 2.—Research in the Atomic Energy Field*

Recent Developments and Prospects.—The first major fruits of Canadian atomic energy research now appear close at hand. The Hydro-Electric Power Commission of Ontario is constructing a multi-unit nuclear electric generating station at Pickering near Toronto. Each unit will generate 500 megawatts (1 megawatt = 1,000 kilowatts) and, beginning in 1970, it is planned to bring into operation the first four units at yearly intervals. Estimates indicate that the power will be generated for less than four mills (0.4 cents) per kilowatt hour and will be competitive with that from other available types of thermal generating station. The Quebec Hydro-Electric Commission is also entering the nuclear field with a 250-megawatt prototype nuclear generating station of advanced design. Like the earlier CANDU (Canadian Deuterium Uranium) reactors, the design employs natural uranium as the fuel and heavy water as the moderator but the heat will be carried from the fuel by boiling ordinary water instead of by heavy water at a pressure sufficient to prevent boiling. The design is distinguished by the title CANDU-BLW-250 (Canadian Deuterium Uranium-Boiling Light Water-250 megawatts).

The first nuclear power demonstration (NPD) reactor, CANDU-PHW-20 (Pressurized Heavy Water-20 megawatts), at Rolphton, Ont., has shown clearly that capacity factors in excess of 80 p.c. throughout a full year can be achieved with this type of system. Fuel is routinely changed with the reactor at power and losses of heavy water are well within the economic limits. This reactor is now yielding useful information on the long-term behaviour of its components and is providing a training base for those who will staff the larger reactors now being built in Canada and abroad. The next reactor in the series is the 200-megawatt station at Douglas Point, Ont., which was brought into initial operation in 1966.

Canadian heavy-water power reactors are also under construction in India and Pakistan. To meet the large demand for heavy water that these reactors necessarily entail, one plant to produce 200 tons a year is nearing completion at Glace Bay, N.S. (later to be extended to 400 tons a year), and one plant that will produce 500 tons a year is under construction.

Nuclear power is expected to restore the world market for uranium, with the major build-up occurring in the 1970s. The high energy yield from the fission of uranium is the key to economic nuclear power. The yield is so high that the cost of the raw uranium is a very minor component of the cost of electric power. It is about 5 p.c. of the total and may be contrasted with 50 p.c. or more paid for coal in some large conventional generating stations. The largest component in the over-all economy of nuclear power systems is reactor plant construction and a minor (7 p.c. to 12 p.c.) component is fuel fabrication.

In the past, the major atomic energy activity in Canada was uranium mining and refining for export in support of military uses. Circumstances have changed so greatly that the Government is following a policy of no further exports for nuclear weapons but is encouraging export for peaceful purposes such as nuclear power subject to negotiated safeguards. It is also significant that since lower unit power costs result from larger stations, there is a new incentive for large utilities to export power from their systems and to interconnect centres of load by high voltage transmission even over long distances.

* Prepared (July 1967) by Dr. W. B. Lewis, Senior Vice-President (Science) Atomic Energy of Canada Limited, Chalk River, Ont.

Also, all users of electricity benefit from the new trend to lower rates through greater demand. The Canadian designs of nuclear power reactor appear capable of adapting to the largest capacities desired and of taking advantage of changes in the market value of natural uranium and of reprocessed fuel to reach even lower power costs as the scale of operations increases.

The first commercial food irradiator using Cobalt-60 radiation is operating near Montreal, Que.

A major advance in instrumentation, precision gamma-ray spectrometry, based on specially prepared germanium crystals pioneered at Chalk River, is revolutionizing many techniques, particularly isotope and element analyses by radioactivation by neutrons.

Organizational Arrangements.—Three Federal Government organizations have the basic responsibilities for atomic energy in Canada: (1) the Atomic Energy Control Board (AECB), responsible for all regulatory matters concerning work in the nuclear field; (2) Eldorado Mining and Refining Limited (EMRL), with a double function as a producer of uranium and as the Government's agent for the purchase of uranium from private mining companies; and (3) Atomic Energy of Canada Limited (AECL), concerned with nuclear research and development, the design and construction of reactors for nuclear power, and the production of radioactive isotopes and associated equipment, such as Cobalt-60 beam therapy units for the treatment of cancer, and large installations for the sterilization of medical supplies and other uses.

In addition to the above agencies, the Radiation Protection Division of the Department of National Health and Welfare (see pp. 301-302) plays an increasing role in ensuring the safe use of radioisotopes and X-rays as well as monitoring radioactivity in public water supplies and the environment from all sources.

AECB does not itself conduct research but it gives substantial grants to universities to further independent studies and to provide the equipment without which the universities would find it difficult to train the nuclear research workers of tomorrow; in 1966-67 they totalled \$2,000,000. The National Research Council also has made grants in the atomic energy field.

EMRL operates research and development laboratories in Ottawa and uses them to support its uranium mining and processing at Beaverlodge in northern Saskatchewan and its refining plant at Port Hope, Ont. EMRL co-operates with the Department of Energy, Mines and Resources, which carries out background research on the production and use of uranium.

AECL has an 11-man Board of Directors, including individuals from power companies, private industry and the universities. The company's major plant, the Chalk River Nuclear Laboratories, is near Chalk River in Ontario, and a second plant, the Whiteshell Nuclear Research Establishment, is near Pinawa in Manitoba. The company's Head Office and AECL Commercial Products are in Ottawa. AECL Power Projects, located at Sheridan Park near Toronto, direct the engineering of power reactors and nuclear generating stations and operate as consulting nuclear engineers. The design and construction of NPD, the demonstration plant, was carried out by collaboration between AECL, the Canadian General Electric Company Limited and Ontario Hydro. AECL Power Projects, with the assistance of Ontario Hydro, designed and constructed the Douglas Point station, which plant, by agreement, will be purchased by Ontario Hydro when it is in satisfactory operation. A similar arrangement between AECL and Hydro-Quebec is being used for the construction of the CANDU-BLW-250 station. The large units of the Pickering station are being built by Ontario Hydro using AECL Power Projects as consulting nuclear engineers.

Because of the great pace of technological development in nuclear power throughout the world, AECL devotes a major effort to collaboration with many organizations. These include industrial firms and the scientific and engineering departments of universities in Canada and, through foreign government agencies and several international organizations,

many technical groups in other countries. For example, the Canadian General Electric Company has designed and constructed WR-1, an organic-cooled experimental reactor, for the Whiteshell Nuclear Research Establishment on a fixed price negotiated contract. The Canadian General Electric and Canadian Westinghouse companies are AECL's chief contractors for fuel element fabrication, and other work related to Canada's nuclear power program is carried out in collaboration with Shawinigan Engineering; Surveyer, Nenniger and Chenevert; Orenda Limited; Dilworth, Secord, Meagher and Associates; Montreal Engineering Company Limited and others. In general, AECL's policy is to stimulate the interest of private industry in the development of nuclear power so that these firms can take over construction of power plants when the opportunity arises, leaving AECL free for fundamental studies and developing new reactor concepts. For some years AECL expects to continue a consulting engineering role in the design of nuclear generating stations. AECL also lends general support to the nuclear and related studies of Canadian universities and lets contracts to the universities on specific problems.

To support their activities in this field, both industry and universities need ready access to information. This was one reason why industry set up the Canadian Nuclear Association, a body that has held a highly successful series of annual conferences at which both progress and the prospects for the future are reviewed. A commercially published magazine, *Canadian Nuclear Technology*, maintains the flow of general information and opinion. Detailed technical information is available principally from the library of the Chalk River Nuclear Laboratories, which lends about 650 items a month from its comprehensive collection of the world's nuclear literature. Information is also distributed from extensive depository collections at the libraries of the University of British Columbia, McMaster University and the National Research Council and from seven smaller collections located across Canada.

In the international field, close ties are kept with the United States Atomic Energy Commission (USAEC) and the United Kingdom Atomic Energy Authority, both of which have representatives permanently at Chalk River. There is an agreement with the United States for co-operative work on heavy-water-moderated reactors; it provides for the free exchange of all technical data in this field and a commitment by the United States to undertake research and development related to reactors of Canadian design. Collaboration has also been established with the International Atomic Energy Agency, the Organization for Economic Co-operation and Development, and Euratom, as well as with Australia, West Germany, India, Italy, Japan, Pakistan, Spain, Sweden, Switzerland, U.S.S.R. and, less formally, with Denmark, France and Norway. In India a major experimental reactor—the Canada-India Reactor—similar to NRX at Chalk River was constructed and was formally inaugurated in January 1961.

Two 200-megawatt units similar to that at Douglas Point are being constructed in India on a co-operative basis, known as the Rajasthan Atomic Power Project (RAPP). India has announced plans to install two more units on another site near Madras. A 137-megawatt station for the Karachi area is under construction by the Canadian General Electric Company on contract from the Government of Pakistan.

Research and Research Facilities.—At the Chalk River Nuclear Laboratories, basic and applied research is carried on by about 300 professional scientists and engineers supported by 350 technicians devoted to research in nuclear physics, nuclear chemistry, radiobiology, reactor physics, reactor fuels, radiation chemistry, materials science, environmental radioactivity, physics of solids and liquids, and other subjects, using as their primary facilities the two major reactors, NRX and NRU, the auxiliary reactors, ZEEP, PTR and ZED-2, a new tandem Van der Graaff accelerator and analytical facilities such as a precision beta-ray spectrometer, mass spectrometers, electron microscopes, multi-channel pulse analysers, automatic recorders, and analogue and digital electronic computers.

Basic research is carried on in many fields, especially that of the structure of atomic nuclei and of the interactions of neutrons, not only with individual nuclei but also with liquids and crystalline solids, particularly those involving energy transfer. For nuclear

structure studies, and earlier tandem Van der Graaff made pioneer work possible by providing multiply charged ions of precisely known energy and direction. It has proved possible to produce nuclei in specific energy states by different routes and to identify and analyse the states, thereby deducing the spin and other characteristics and discovering, for example, three correlated series of rotational states in the nucleus neon-20. Not only is this important to a basic understanding of nuclear structure but it also finds application in unravelling the complex of nuclear reactions responsible for the genesis of nuclei in the interior of stars. With the new tandem Van der Graaff rated at 10,000,000 volts on the terminal replacing the former machine that attained 7,000,000 volts, it should be possible to study reactions between heavier and more complex nuclei.

Studies of neutron interactions with matter are made possible by the intense beams of neutrons available from the NRU reactor. By monitoring the neutrons in cosmic radiation, it has been possible to find correlations with the occurrence of solar flares and contribute to the recent advances of knowledge of phenomena in interplanetary space. Isotope techniques have brought about revisions in the basic theory of chemical reactions induced by radiation. This basic research may find a useful application in the technology of various coolants in nuclear power reactors.

The research facilities of the NRX and NRU reactors have continued to attract individual scientists as well as teams from universities and from other countries. More facilities for studying radiation damage and its effects under closely controlled conditions are coming into use. These include devices for measuring creep of metals under stress and fast neutron bombardment at controlled temperatures.

The growing use of lithium-drifted germanium detectors for precise measurements of gamma-ray energies has led also to more extensive electronic digital data-processing.

The first major installation at the Whiteshell Nuclear Research Establishment (WNRE) is the organic liquid-cooled heavy-water-moderated experimental reactor WR-1. The facilities of WR-1 are quite extensive and can be applied to development work also with other coolants such as boiling water and super-heated steam. Laboratory facilities at WNRE are specially suited to studies of the effects of radiation on materials and a wide program from molecular biology to radiation chemistry and reactor engineering is developing.

Atomic energy or nuclear science is spreading out into so many fields of technology and daily life that the boundaries are becoming diffuse. For the purposes of this review, the field is restricted to all those activities that are conducted only under an order from the Atomic Energy Control Board. This field includes all uses of radioisotopes including natural uranium and thorium at significant levels of activity and the operation of all machines capable of producing such isotopes and highly penetrating radiations. Radioisotopes are widely used in medical research and diagnostics including forensic studies and in biological research in universities, hospitals, research institutes and field stations. They are also used in well logging and in analyses of geological and mineral samples. The radiations from isotopes, especially Cobalt-60, are used for sterilization of packaged and sealed medical supplies, for cancer therapy and for food sterilization. Since the Cobalt-60 radiations are not capable of producing neutrons or secondary radioactivity, the products from these operations require no subsequent radiation control and therefore lie outside the atomic energy field. The irradiators themselves are controlled by the AECB. Multimillion volt particle accelerators are capable of and sometimes used for producing radioisotopes at high activity levels, so both the machines and the products come under AECB regulation. Several new accelerators have been introduced recently in university research laboratories. There are new electron linear accelerators at the universities of Saskatchewan and Toronto. The University of Montreal has taken over the Tandem accelerator from Chalk River and a similar machine has been installed at McMaster

University. Of the older accelerators the cyclotron at McGill University in recent years has been used extensively for nuclear physics and nuclear chemistry and among the results obtained was the discovery of several nuclei that emit protons in their radioactive decay. The nuclear reactor at McMaster is used extensively in a wide range of research.

Nuclear Power Development.—Much of the success of the CANDU series of reactors is attributable to the engineered design of the fuel tested in many experimental irradiations under conditions that are more exacting than normal service. The fuel is uranium dioxide, specially prepared from natural uranium entirely in Canada. Strings of pellets of sintered oxide are charged into thin-walled zirconium alloy tubes. The tubes deform slightly in service in a determined manner that has proved satisfactory. The migration of the fission product atoms, especially the gases, has been studied extensively and satisfactory operating conditions have been established for the full energy yield of 9,000 megawatt-days per ton of uranium and more. This energy yield is so great that there is no need to make provision for processing the spent fuel and the prospective fuelling cost is less than 0.8 mill (0.08 cent) per kilowatt hour of electricity. This cost may be compared with about three mills from coal at \$8 per ton. The low fuelling cost is most important because Canada has access to such an abundance of coal, oil and natural gas that the competitive cost level for thermal power is lower than in many other countries.

An evaluation was presented at the third United Nations Conference on the Peaceful Uses of Atomic Energy held at Geneva in September 1964 of cost estimates of several preliminary designs of large power reactors using heavy water as moderator. These designs represented types for which development work was well advanced. The differences lie in the choice of heat transfer fluid or 'coolant' and the steam cycle. Basically, there are three coolants—heavy water, ordinary or light water, and an organic liquid. The heavy water could be under pressure to prevent boiling or to allow some boiling. Light water would have to boil or be in the form of 'fog' or 'wet steam'. The organic liquid must not boil. All types have excellent economic promise and it was decided to develop the boiling light water type chiefly for two reasons. By taking the steam direct to the turbine a boiler or heat-exchanger is eliminated and the efficiency is raised. The second advantage is a relaxation of the strictness of control of leaks needed with hot heavy water, both because of its cost and because of the toxicity of the tritium it contains.

The low fuelling cost derives as much from the details of the designs proposed as from the choice of heavy water as the moderator. Extensive development has been applied to reduce the fabrication cost of the fuel; a recent \$9,000,000 order at a price including the uranium and zirconium of \$44 per kilogram of uranium fulfills the predicted estimates while leaving still further promise of lowering the cost as the scale of production increases. Particular attention is paid in reactor design to minimize the wastage of neutrons by reducing the amount of absorbing structural material. For example, in the NPD reactor the tubes forming the fuel channels have 3.25 inches inside diameter and walls 0.163 inches thick whereas the four-inch diameter tubes in the Gentilly reactor will be of an improved zirconium alloy and only 0.095 inches thick. The capital cost per kilowatt is also being reduced by building reactors and turbines of larger capacity, by simplification and repetition of designs as well as by increased fuel ratings. The cost of heavy water is also falling as modern plants of large capacity come into production.

Most of the development work centres on establishing the properties of materials for the arduous environment of high temperatures, and radiation effects affecting the solids and the fluids. In ordinary engineering, the three parameters of stress, temperature and time lead to complex analyses, especially when corrosion and atomic diffusion are active. In reactors, irradiation is a fourth and major parameter. Thus, materials development still calls for a major scientific and engineering program of studies.

CANADIAN NUCLEAR REACTORS IN OPERATION, UNDER CONSTRUCTION OR UNDER DETAILED DESIGN

Name	Location	Date of Start-up	Power	Fuel	Moderator	Coolant	Use
Zero Energy Experimental Pile (ZEEP).....	Chalk River, Ont.	1945	100 w.	Natural uranium metal or oxide	Heavy water	—	Lattice experiments
National Research Experimental (NRX) ¹	Chalk River, Ont.	1947	42,000 kw.	Natural uranium oxide and enriched uranium alloy	Heavy water	Ordinary water	Research, engineering tests and isotope production
National Research Universal (NRU).....	Chalk River, Ont.	1957	90,000 kw. to 120,000 kw.	Enriched uranium alloy	Heavy water	Heavy water	Research, engineering tests and isotope production
Pool Test Reactor (PTR).....	Chalk River, Ont.	1957	100 w.	Enriched uranium alloy	Ordinary water	Ordinary water	Reactivity and absorption measurements
Toronto University Sub-critical Reactor.....	Toronto, Ont.	1958	—	Natural uranium metal	Heavy water	—	Research and teaching
McMaster Nuclear Reactor (MNR).....	Hamilton, Ont.	1959	2,000 kw.	Enriched uranium metal	Ordinary water	Ordinary water	Research
ZED-2.....	Chalk River, Ont.	1960	100 w.	Natural uranium metal oxide or carbide	Heavy water	—	Lattice experiments
Nuclear Power Demonstration (NPD).....	Rolphton, Ont.	1962	20,000 kw. (electricity)	Natural uranium oxide	Heavy water	Heavy water	Power demonstration
Whiteshell Reactor No. 1 (WR-1).....	Pinawa, Man.	1965	40,000 kw. at first	Enriched uranium oxide	Heavy water	Organic liquid	Research and engineering tests
CANDU-PHW-200 ²	Douglas Point, Ont.	1966	200,000 kw. (electricity)	Natural uranium oxide	Heavy water	Heavy water	Power
Karachi Nuclear Power Plant (KANUPP)...	Karachi, Pakistan	1970	137,000 kw. (electricity)	Natural uranium oxide	Heavy water	Heavy water	Power
CANDU-PHW-500 (several reactors) ²	Pickering, Ont.	1970	500,000 kw. (electricity) each	Natural uranium oxide	Heavy water	Heavy water	Power
CANDU-BLW-250.....	Gentilly, Que.	1971 proposed	250,000 kw. (electricity)	Natural uranium oxide	Heavy water	Ordinary water boiling	Power

¹ NRX is essentially duplicated in the Canada-India Reactor, near Bombay, India, which started up in 1960.

² The CANDU-PHW-200 design is also employed in the Rajasthan Atomic Power Plant in India, where the first reactor is scheduled to start up in 1969.

³ CANDU-PHW stands for "Canadian Deuterium Uranium-Pressurized Heavy Water".

Section 3.—Space Research in Canada*

The interests of Canadian scientists engaged in space research continue to be mainly in the field of aeronomy with particular, though not exclusive, emphasis on the high-latitude atmospheric and magnetospheric phenomena which are now generally believed to be related to the various disturbances on the sun. Canada, with its large land mass extending on both sides of the auroral zone, is ideally located for studies of medium- and high-latitude atmospheric phenomena and Canadian scientists have long been active in this exciting field. Although many of the programs of ground-based observations are still of great importance and are continuing, measurements from rockets and satellites are now making a significant contribution to knowledge of the upper atmosphere and solar-terrestrial relations.

The satellite program of the Defence Research Board, carried on in collaboration with the United States National Aeronautics and Space Administration (NASA), continues to form a major part of the Canadian space activities. The Canadian satellite *Alouette I*, which was launched on Sept. 29, 1962, is still in orbit. Its instruments are functioning satisfactorily and there is every indication that it will continue to operate and send back scientific data for some time to come. This satellite carries a number of experiments but its main objective is the sounding of the ionosphere from above. The ionosphere is the diffuse layer of highly conducting gas lying between heights of about 60 to 300 miles. It reflects radio waves over a wide band of frequencies and is of great practical importance for communications. The underside of the ionosphere has been studied for many years by the technique of sending a short pulse of radio waves up from the ground and examining this pulse after it had been reflected back from the ionized regions. *Alouette*, however, was the first spacecraft to provide scientists with a continuous sounding of the ionosphere from above.

Other instruments carried by the satellite enable studies to be made of radio waves from outer space and very low frequency electromagnetic waves whose propagation is influenced by the earth's magnetic field. There are also a number of detectors to study cosmic rays, energetic particles in the Van Allen radiation belts and the artificial radiation introduced by high-altitude nuclear explosions. Data are transmitted from the satellite to the ground stations in several countries around the world and the magnetic tape records are sent to Ottawa for analysis. Scientific results to date have been most gratifying and the satellite measurements have added greatly to knowledge of the earth's upper atmosphere.

The over-all design and construction of the spacecraft were carried out by the Defence Research Telecommunications Establishment. Some components were made by Canadian industry and the cosmic ray instruments were the responsibility of the National Research Council. The cost of the launching vehicle, the actual launching and much of the data recovery were undertaken by NASA as part of its international co-operative program. This joint Canadian-United States program is continuing. On Nov. 29, 1965, the second Canadian satellite *Alouette II* was successfully launched by NASA from the Western Test Range in California, carrying instruments similar to but more sophisticated than those of *Alouette I*. Its elliptical near-polar orbit has an apogee of 3,000 km., allowing measurements to be made over a much greater height range than previously. *Alouette II* is the first of four satellites to be built in Canada for the International Satellites for Ionospheric Studies (ISIS) series. These vehicles will be launched at about two-year intervals during the next five or six years.

The National Research Council has been responsible for the management of the Churchill Research Range in northern Manitoba since Jan. 1, 1966, under an arrangement formalized by a Canadian-United States governmental agreement providing for joint funding and use of the range and designating NRC and NASA as the responsible Canadian

* Prepared (July 1967) by P. de L. Markham, Space Research Facilities Branch, National Research Council of Canada, Ottawa.

and American agencies. Operations at the range are carried out by a civilian contractor. At present about 70 large sounding rockets are launched each year together with about 200 small meteorological rockets.

Rockets have a special role in the space programs because there is an important region of the upper atmosphere that is too low for satellite orbits and too high to be reached by balloons or aircraft. This is the region between heights of about 25 and 200 miles. Here are found the absorbing layers in the lower ionosphere which cause radio blackouts and here are detected the complex atmospheric processes which produce the visible aurora. Because the axis of the earth's magnetic field is tilted, the auroral zone sweeps down across Canada and Churchill lies almost in the middle of this zone. This region of the atmosphere is therefore of great interest and importance to Canadian scientists. For many years investigations were limited to ground-based radio and optical measurements but now rockets are being used to carry instruments right into the aurora. The measurement *in situ* of electron density, temperature and charged particles will ultimately lead to a proper understanding of the aurora and high-latitude disturbances.

Another zone of particular scientific interest is that in the vicinity of the magnetic dip pole. Because its geographic location at the present time is well outside the cover of the Van Allen radiation belts, which terminate in the auroral zones, the magnetic polar region is particularly suitable for the study of radiation from outer space. In 1966, two *Black Brant III* rockets carrying instrumentation for the measurement of galactic X-rays were launched from a quickly prepared site at Resolute Bay, N.W.T. The operation was very successful and the results were of considerable scientific interest. In 1967 the installation was improved and expanded to cater for meteorological rockets. Launches are planned for late 1967 for the NRC, the University of Calgary, NASA and the Meteorological Branch of the Department of Transport.

Many of the rockets fired at Churchill are of Canadian design and development; the *Black Brant* rockets were pioneered by the Defence Research Board and are now produced commercially in Winnipeg. *Black Brant IIA* is a 17-inch diameter vehicle capable of carrying 150 lb. of payload to over 100 miles. *Black Brant III*, 10 inches in diameter, will lift 40 lb. to about 100 miles. *Black Brant IV* is a two-stage rocket, combining the *IIA* and *III*, and will go to a height of about 600 miles. *Black Brant VA* and *VB* are both 17-inch vehicles, the former with the same motor as the *IIA* but with a rather higher performance, and the latter with a motor giving slightly less thrust for double the time which results in an ability to carry 250 lb. of payload to over 240 miles.

Along with the increased activity in Canadian space programs there has been a general broadening of interests. The Meteorological Branch of the Department of Transport (DOT) Meteorological Satellite Data Laboratory is applying satellite observations to the problems of meteorology and ice reconnaissance. Two experimental ground stations for the development and use of meteorological satellite systems have been completed at Halifax and Toronto. In the field of communications satellites, DOT has a joint program with NASA in which Canada participates in the testing of satellites in the Applications Technology Satellite (ATS) Program using the experimental communications satellite ground station at Mill Village, N.S.

Canadian universities have continued to be very active in the field of space research. Nine university groups have programs involving the instrumenting of rockets, balloons or satellites for upper atmospheric studies. The McGill University program of gun-launched vehicles, known as HARP (High Altitude Research Program), has been continued with success, although Canadian financial support for the project has terminated.

Much of the foregoing work is shared with Canadian industry. Civilian contractors are producing instruments and space vehicles for both Canadian and foreign experimenters. In some programs, such as the *Alouette* satellite and the development of *Black Brant* rockets, industry is playing a major role. Other work of great importance for the space programs, such as fundamental research on materials and in plasma physics, is also being carried on in industrial laboratories.

In 1966 a special study was commissioned by the Science Secretariat of the Federal Government to review the existing Canadian programs in space science, to determine the reasons for a space program in Canada, to forecast future programs and to outline the elements of a suitable organization. This study, known as the Chapman Report, was published in March 1967 and led to the formation in July 1967 of a Task Force on Satellites which will make recommendations to the Government on the scope and nature of Canada's future activities in the use of satellites, including satellite communications, and will fully explore avenues for co-operation with United States, European and other interests in this field.

Section 4.—Research in Geophysics and Astronomy

Research in the field of geophysics is covered in the 1967 Year Book under the heading of Geology and Economic Minerals of Canada, pp. 30-32. The following item on this subject gives brief additional data on current (1967) projects and facilities. A special article on Astronomy in Canada, appearing in the 1965 Year Book at pp. 47-55, indicates in some detail the advances made in astronomical research and educational facilities; the write-up on pp. 420-421 mentions the highlights only.

Geophysics.*—Geophysics—the study of the earth, including the oceans and atmosphere, by the methods of physics—embraces a number of fields, each a major science in itself, such as geodesy, seismology, terrestrial magnetism, meteorology, oceanography and hydrology. Work in geophysics in Canada is carried on by a number of Federal Government departments, some provincial governments, nearly all universities and by companies engaged in geophysical prospecting for oil or minerals.

Currently, in the field of seismology, the 25 seismograph stations operated by the Dominion Observatory, with the co-operation of universities in several cases, provide good coverage of the country for the recording of earthquakes. The regular stations are supplemented by a special array of detectors at Yellowknife, N.W.T., which is operated by the Dominion Observatory as part of a world net of highly sensitive detection stations for nuclear explosions. Because of interest in seismicity as applied to building problems, special strong-motion instruments have been installed on the West Coast and, in co-operation with the Division of Building Research of the National Research Council, at Sept Îles, Que. Considerable work has also been done by both government and university groups on the study of the earth's crust, using waves from explosions.

Measurements of both the gravitational and magnetic fields of the earth were extended during 1966-67 over land areas by the Dominion Observatory and the Geological Survey, and over the oceans by the Bedford Institute of Oceanography. These measurements provide information that is extremely useful in the study of concealed geological structures. A very large area of Canada has now been covered by airborne magnetometer maps (partly through co-operative federal-provincial surveys); in many regions, these maps have come to be an essential item of equipment for the prospector. Because the north magnetic pole is located in Canada, studies of magnetic disturbances and their relation to conditions in the upper atmosphere are of importance in Canadian geophysical research. Observations by means of rockets were made at the Churchill Research Range in northern Manitoba and also, for the first time, with rockets fired from Resolute Bay, N.W.T. Satellite *Alouette I* launched in 1962 and *Alouette II* launched in 1965 continue to provide information on the ionosphere. (See also p. 418.)

The Canadian program for the International Hydrological Decade, a ten-year study of the world's freshwater resources, has been developed in detail. Experimental basins across the country have been selected for the observation of the effects of changes in surface features on the amount and quality of groundwater. A feature of the Canadian program in hydrology is the importance of glacier studies. During the year, expeditions

* Prepared by Dr. G. D. Garland, Geophysics Laboratory, University of Toronto, Toronto.

to over 12 glaciers in the Arctic or Cordillera were carried out by Canadian or other groups. Great interest was provided by the Steele glacier of the Yukon, which in July 1966 underwent a sudden and unprecedented advance.

Meteorology includes not only the routine forecasting carried out principally by the Meteorological Branch of the Department of Transport (see pp. 63-64), but also research in special problems by the Branch and by at least 12 university groups. These problems include controlled experiments in weather modification, the mechanics of hail formation, and micrometeorology, which is the detailed investigation of meteorological conditions in regions of small extent.

Partly as a result of work by Canadian geophysicists on the nature of the ocean floor, which indicated that the major oceans of the world are spreading, the old theory of continental drift was revitalized and actively discussed by geophysicists throughout the world. It is recognized that there could be very significant consequences to the methods of locating economic minerals if the continents are drifting.

Astronomy.*—Modern astronomical research is based on observations secured with complex optical and radio telescopes. The major centres of this research in Canada have developed within the Federal Government and at a few universities. Research in optical astronomy began early in this century at the Dominion Observatory, Ottawa, and this was followed by the construction of larger telescopes at the Dominion Astrophysical Observatory, Victoria, and the David Dunlap Observatory of the University of Toronto. Other Canadian universities teaching astronomy include the University of Western Ontario, Queen's University, the University of Waterloo, the University of Saskatchewan, the University of British Columbia and Victoria University. Some of these universities have their own small observatories. A new observatory, commemorating the visit of Her Majesty Queen Elizabeth II to Canada in October 1964, is under construction on Mount Kobau in southern British Columbia. It will be equipped with a large reflecting telescope 150 inches in diameter, in addition to smaller telescopes, and will be a national observatory available to astronomers throughout the country. Completion of the large telescope is scheduled for about 1973.

Canada first entered the field of radio astronomy, the study of radio emissions from beyond the earth, in 1946 when the National Research Council began its study of solar radio waves. Radio astronomy has expanded rapidly and there are now radio telescopes operated by the University of Toronto, by Queen's University, by the Dominion Observatory near Penticton, B.C., and by the National Research Council at a large observatory in Algonquin Park, Ont., where a steerable radio telescope 150 feet in diameter began observations in 1966. An 84-foot parabolic telescope and two large arrays of antennas are in operation at the Penticton site.

Canadian astronomers are engaged in various specialized fields of research. In the study of the solar system the sun has been studied for many years by both optical and radio techniques with emphasis on solar flares and other phenomena which affect the environment of the earth. Solar eclipses in which the path of totality crosses Canada have been observed whenever possible. Only minor attention has been devoted to study of the planets but major efforts have gone into meteor research. Both photographic and radar equipment are employed in this work and the study of meteor spectra and radar echoes from meteor trails have been particular specialties. There is an increasing interest in the related field of meteorites and Canada has figured prominently in the study and interpretation of old craters caused by the impact of huge meteorites.

Stellar astronomy has been the largest single field of Canadian astronomy. One aspect of this is the accurate determination of the positions and motions of stars in the sky. The Dominion Observatory is continuing an active program of positional astronomy aided by new and highly specialized instruments. The large telescopes at Victoria and Toronto have been used primarily for spectroscopy, one of the major tools of astrophysics.

* Prepared by Dr. Ian Halliday of the Dominion Observatory, Ottawa.

Several programs have been completed in which large groups of stars have been studied individually to determine their true luminosities and motions in the line of sight. The results have then been used for research on the structure of the earth's Milky Way galaxy. From spectroscopic studies of certain types of close double stars, information on such properties as the size, mass, density and temperature of individual stars is secured. Stars whose light varies in intensity have been studied by photography for many clusters of stars and are also studied by photoelectric devices mounted on the telescopes at Victoria, Toronto and the University of Western Ontario.

Although the optical telescopes in Canada have not been used for extragalactic research, many of the stronger sources in the field of radio astronomy are now known to be exceedingly distant objects far beyond the stars of the earth's galaxy. Canadian radio telescopes are and will continue to be engaged in the observation of such sources. At the same time they are also involved in the study of clouds of gas between the stars of the Milky Way system and this work complements the knowledge gained from spectroscopic research with optical telescopes. The large size of the Queen Elizabeth II telescope planned for Mount Kobau will guarantee Canadian astronomers an opportunity to become active in all fields of extragalactic astronomy and will provide essentially complete facilities for astronomical research in Canada.

Section 5.—Other Scientific and Industrial Research Facilities

This Section outlines research facilities and activities other than those covered in Sections 1 to 4—various federal departments and agencies, provincial organizations, universities and industry. The first three types of institutions—federal, provincial and university—have, of course, an interest in problems of industrial significance. As already stated, although many Canadian industries now possess research facilities—some of them quite extensive—much of the industrial research to date has been done under government auspices.

Subsection 1.—Federal Organizations

Research activities in the various Federal Government departments and agencies have expanded rapidly, at first because of the need for speeding up the production of raw materials, which were long the basis of Canada's export trade, and later because of increasing interest in the processing of raw materials, the necessity of meeting the needs of national defence and the developing consideration for many human and resource requirements. In addition to the activities of the National Research Council, Atomic Energy of Canada Limited and the Department of Energy, Mines and Resources dealt with in Sections 1 to 4, there are a number of other federal agencies involved in research, as shown in Table 8, p. 432.

The scientific work of the Department of Agriculture is described in Chapter XI of this volume, the investigations conducted by the Board of Grain Commissioners in Chapter XXI, the specialized work in scientific forest research in Chapter XII, scientific services concerned with Canada's mineral resources conducted by the Department of Energy, Mines and Resources in Chapters I and XIII, investigational work of the Department of Fisheries and the Fisheries Research Board in Chapter XV, research of the Canadian Wildlife Service of the Department of Indian Affairs and Northern Development in Chapter I, medical and other research conducted by the Department of National Health and Welfare and other agencies in Chapter VI, and the work of the Defence Research Board in Chapter XXVI.

The Department of Indian Affairs and Northern Development operates a permanent scientific research laboratory north of the Arctic Circle. This laboratory, at Inuvik, N.W.T., has year-round facilities specially designed for arctic research and serves as a base for extensive field studies in the Western Arctic. It accommodates a permanent staff

of eight scientists from many disciplines and up to 16 visiting researchers. The operation of the laboratory is in charge of a manager working under the direction of the Northern Co-ordination and Research Centre of the Department.

Subsection 2.—Provincial Organizations

Five of Canada's provincial governments (Nova Scotia, New Brunswick, Manitoba, Saskatchewan and Alberta) have established research councils or foundations and two others (Ontario and British Columbia) have assisted financially in the setting up of such organizations. Quebec has also announced its intention of establishing a provincial research council and industrial research centre in the near future. Most provincial governments have university laboratories to consult, particularly about local industrial and agricultural problems, and many individual departments have facilities for research in their particular fields of endeavour or assist research through the provision of financial aid to students working in those and other scientific fields. Agriculture is particularly well covered because of its importance as an export industry but the provinces are also intensely interested in their other natural resources. Their efforts in the fields of agriculture, forestry, mining and fisheries are outlined in the Chapters dealing with those subjects (see Index).

Research and development expenditures by the seven provincial councils or foundations and the sources of funds for such purposes are shown in Subsection 4, Tables 5 and 6, p. 430.

Nova Scotia Research Foundation.—This body was created by the Government of Nova Scotia in 1946 to give its people scientific and technical assistance in finding new and better ways to utilize the resources of the forest, the sea, the farm, the mine and the process industries. To this end it seeks to correlate and further scientific work on local problems and available resources. Within two years a new \$1,250,000 laboratory building, to be financed by an Atlantic Development Board grant, will occupy a commanding 10-acre site in Dartmouth, N.S., and will house a staff of about 100, including 70 scientists and technicians. An additional \$500,000 has been provided for construction of three smaller laboratories for ceramics, timber-testing and water-testing.

The Foundation assists universities, colleges, research groups, industries, provincial and federal departments and individuals by loans of equipment, grants, scholarships, laboratory and summer assistants, library, cartographic, photogrammetric and translation services, and technical information. It has supported or collaborated in work on breeding new varieties of plants and root nodule bacteria; on antibiotics, poultry, blueberry culture, coal-burning equipment, the constitution and gasification of coal, the non-destructive testing of mine equipment, the utilization of anhydrite, diatomite, fish waste, gypsum, seaweed, slag, slab wood and fertilizing materials. It has conducted geophysical, geological, air pollution and seaweed surveys as well as forest aphid, forest ecology and genetic studies and has assisted studies on the nutrient cycles of lakes, on X-ray crystallography, on pressures in underground strata and on crop damage by predators. Its Geophysical Division is equipped to undertake all types of magnetometric, gravimetric, resistivity, seismic and electromagnetic explorations, and so assess the possibilities of the existence of oil, gas, potash and other economic mineral deposits in Nova Scotia and in the surrounding sea. The Technical Services Division provides industries in the province with a free field service on technical information and industrial engineering. Technical assistance is also provided on corrosion problems, equipment and process trouble-shooting and on new product development. The Operational Research Division prepares studies on provincial resource utilization and undertakes industrial studies at the request of individual firms.

A *Research Foundation Bulletin* is issued from time to time to keep industry advised of Foundation activities and also of important discoveries in science and technology. The *Research Record* provides a descriptive account of past research projects.

The New Brunswick Research and Productivity Council.—The aims of this Council, established by an Act of Legislature in 1962, are *inter alia* to “promote, stimulate and expedite continuing improvements in productive efficiency and expansion in the various sectors of the New Brunswick economy”. The Council receives an operating grant from the provincial government and support in specific areas from federal sources. It undertakes contract research on a repayment basis from industry. Its laboratories are at present 17,000 sq. feet on a ten-acre site in Fredericton, and plans are being drawn up to extend this to a total of 50,000 sq. feet with the support of a capital grant of \$1,250,000 from the Atlantic Development Board. Staff continues to increase—doubling from 20 to 40 during 1965-66 and reaching an expected 50 by the end of 1967. The work of the Council is centred on providing industry with engineering, industrial engineering and technical information services, on training courses in management techniques and on applied research in the fields of mechanical and control engineering, food technology, microbiology and mineral technology. Policies are established by 13 Council members representative of provincial industry, labour, government and education with the help of specialist advisory committees. The Executive Director has supervision over and direction of the work of the staff and has charge of all matters relating to the administration of the affairs of the Council. The Chairman of the Council reports annually to the Premier of the province.

Manitoba Research Council.—The Manitoba Research Council consists of seven members representing natural-resource-based industry, manufacturing, the University of Manitoba and labour. Its work is financed by provincial government appropriations, although fees and service charges may be levied for its services. The objectives of the Council are to promote or carry on, or cause to be promoted or carried on, research and scientific inquiries respecting agriculture, other natural resources, industry or other segments of the economy of the province and to help secure for Manitoba the benefits of research and scientific inquiries carried on elsewhere. The preponderance of small industrial establishments in Manitoba and their need for assistance in developing a more scientifically based production capability to improve their competitive position in domestic and world markets was the major technical reason for the establishment of the Council. At present it maintains an office and staff in the Provincial Government Administration Building (Norquay Building) in Winnipeg.

Saskatchewan Research Council.—This Council was set up in 1947 under an Act of the Government of Saskatchewan. The Council carries out research in the physical sciences, both pure and applied, with the aim of improving the provincial economy. It is therefore particularly concerned with the commercial exploitation of provincial resources and the scientific aspects of business. At first the Council had no scientific personnel and laboratory facilities of its own. Its research program was carried on at the University of Saskatchewan and was promoted by means of grants to members of the staff and scholarships to graduate students. The 1947 Act was amended in 1954 to empower the Council to acquire property, employ staff and conduct its own financial affairs. Laboratory buildings were erected on the university campus in 1957 and were extended in 1963. In the present program of research the emphasis is on water and mineral resources, fields of agriculture not covered by other organizations, and technical assistance to industry. A large part of the program is carried out by the permanent staff, now numbering about 60, but some of the Council's research is still promoted by grants to university staff. The members of the controlling body, the Council proper, are appointed by the Lieutenant-Governor in Council and consist of representatives of the government, industry and the university.

Research Council of Alberta.—The Province of Alberta set up a scientific and industrial Research Council in co-operation with the University of Alberta in 1921, the promotion of mineral development within the province being the chief purpose leading to its establishment. The Council operates under an Act somewhat similar to that which set up the National Research Council and is principally financed by provincial government appropriations. The present program is directed to the application of basic and applied science toward the development of the natural resources of the province and toward the establishment of new industrial operations within the province. Investigations in the Council laboratories and pilot plant are organized into two branches—the Earth Sciences Branch which includes all work on groundwater geology, geological surveys and research, mineral beneficiation and soils, and the Fuels Branch which includes work on coal, petroleum, natural gas, chemical process and product development, and gasoline and oil testing. There are, in addition, groups dealing with industrial engineering services, highway research, a co-operative program on cloud physics with reference to the hail problem, and a number of special projects.

The operations of the organization are controlled by a Council of ten individuals representative of the government, the universities and industry. The various research projects are reviewed by advisory committees composed of specialists in each field, drawn from industry, the universities and the provincial government.

The main Council laboratories are located on the University of Alberta campus in Edmonton. A pilot plant facility is located in the Clover Bar area east of the city.

Ontario Research Foundation.*—The Ontario Research Foundation, established in 1928, operates as an independent corporation, deriving its powers from a special Act of the Legislature and governed by a Board of Governors appointed by the Lieutenant-Governor in Council of Ontario. The organization was financed initially by an endowment fund composed of subscriptions from commercial and industrial corporations, and from private individuals, and a grant from the provincial government. However, most of its current income is derived from contract research undertaken for industry, although income is also obtained from the various government departments for research and other work undertaken on a contract basis. The Foundation is concerned primarily with the development of industry and the development of Ontario's natural resources through the application of scientific research. However, Foundation activities are not confined to the province; research contracts are routinely handled for any organization, without reference to location. Being primarily an industrial research institution, the Foundation's main areas of scientific endeavour are chemistry, physics, metallurgy, applied microbiology, textiles and engineering. A field engineering and technical information service is provided free to industry, sponsored by the Ontario Department of Economics and Development and by the National Research Council. In 1967 the Ontario Research Foundation relocated in Sheridan Park, Ont., where it is the nucleus organization of the Sheridan Park Research Community.

British Columbia Research Council.*—This Council is a non-profit, industrial research institute with offices and laboratories on the campus of the University of British Columbia. Its function is to enable even the smallest firms to improve their competitive position in Canadian and world markets by the use of the most up-to-date scientific knowledge. The Council provides a free technical information service in collaboration with the National Research Council, carries out contract research for clients on a confidential basis and initiates "in house" research programs designed to promote and utilize the resources of the province. The Council is active in the areas of applied biology, chemistry, engineering, physics, operations research, industrial market studies and economic feasibility studies.

* See also p. 401.

Subsection 3.—University Research

Research conducted in the universities falls into three broad categories: research projects carried out by faculty members in addition to their teaching duties; investigations by students, under the guidance of professors, to meet the requirements for advanced degrees; and larger projects or programs undertaken co-operatively on a faculty or inter-faculty basis in large laboratories or specialized institutes connected with the university.

Faculty Resources.—Research is generally considered to be an important part of the function of the university teacher and many of the 19,000 full-time staff members of Canadian universities can be assumed to be engaged in such activity. With most staff members, only the time that can be spared from teaching duties can be devoted to research during the teaching session but, for those not teaching summer classes, the summer months offer an opportunity for relatively uninterrupted research activity. The projects undertaken are very diverse in character and defy brief classification here but information concerning them is available in the annual reports of the presidents of the individual universities. For the humanities only, a more convenient source of information about the scope and diversity of Canadian scholarship is the "Bibliography of Scholarly Publications" included in *The Humanities in Canada*, a report prepared by F. E. L. Priestley for the Humanities Research Council of Canada and published by the University of Toronto Press in 1964.

Student Resources.—Prior to World War II, higher education in Canada concentrated almost exclusively on the production of trained professionals to serve the community as doctors, lawyers, engineers, etc., and only three Canadian universities had established graduate schools. In 1965-66, however, 43 universities and colleges were offering work at the graduate level, 30 of them with doctorate programs. The writing of a research thesis is an important part of the requirements for the award of the higher degrees toward which the students enrolled in these schools work. Compilations of the numbers of such students by sex, course, university, degree sought and year of expected graduation may be found in the annual series *Statistical Summary of Students Registered in the Graduate Schools of Canadian Universities in Physical and Earth Sciences, in Architecture and Engineering, and in Life Sciences*, published by the National Research Council, and in *Graduate Students in the Humanities and Social Sciences Registered at Canadian Universities 1963-64*, published by the Association of Universities and Colleges of Canada.

In 1965-66, the total enrolment (full-time and part-time) in graduate schools of Canadian universities and colleges amounted to 24,920, of whom 4,667 were women. In the same year, 697 Ph.D.s and 5,233 Master degrees and *licences* were awarded.

Financial Resources.—Financial support for university research comes primarily from five sources: departments and agencies of the Federal Government, quite heavily committed to support research largely in the natural and life sciences; industry, which supports both basic and applied research; private foundations, which have for many years been generous supporters of research, sometimes in selected fields; provincial governments; and the United States Government. Among these, the Federal Government is the largest single contributor. In 1965-66, its share of the total provision of funds for university research amounted to about 60 p.c., provincial governments contributed about 15 p.c., 9 p.c. came from private foundations, a little over 4 p.c. from industry and the remainder from other sources.

Although federal funds are channelled through almost a score of different departments and agencies, by far the greater part of the total is disbursed by four of them: the Defence Research Board, the Department of National Health and Welfare, the Medical Research Council and the National Research Council. Most of the assistance is in the form of direct

grants in support of research projects undertaken by university staff members but a significant part of the total program is the assistance given to graduate students working for higher degrees. Funds are also made available to defray associated expenditures, such as those incurred in the publication of research journals and the holding of conferences.

The activities of the Defence Research Board in support of university research consist mainly in the provision of funds for projects in basic sciences that are relevant to the defence of the nation. Funds administered by the Department of National Health and Welfare and the Medical Research Council go chiefly to support research in the medical and para-medical sciences. The National Research Council confines its support to the physical and earth sciences, architecture and engineering, and the life sciences. The total amount of funds disbursed by these and the other Federal Government agencies in 1966-67 was over \$42,000,000, not including more than \$7,000,000 in scholarships and bursaries paid to students.

The major source of funds for the promotion of the arts, humanities and social sciences, including research in these fields, is the Canada Council (see p. 395). It is rather difficult to define and categorize the various aspects of the Council's support of university research. Broadly speaking, however, three main categories can be identified; assistance to individual postgraduate students and research fellows; grants-in-aid of particular research projects; and assistance with ancillary research activities such as the compilation of indexes and bibliographies, purchases for libraries, publication costs and travel expenses.

In addition, some Federal Government agencies such as the Defence Research Board and the Departments of Manpower and Immigration, Labour, and Indian Affairs and Northern Development operate programs of university grants and contracts for research in economics, anthropology, sociology and related disciplines, but the total amount made available under these programs is not large.

Subsection 4.—Industrial Research and Development

Canadian firms are becoming increasingly involved in research and development. The need to develop new or improved products to serve expanding domestic and foreign markets, to meet competition from other Canadian and foreign firms and to efficiently exploit the country's natural resources has required industry to form and expand competent research and development units. This development of research and development facilities has been encouraged by the growth in markets, production facilities, financial resources and supplies of technically skilled manpower.

The Federal Government recognizes the need for industrial research and development and has inaugurated several programs of direct assistance. The Department of Industry administers two: the Defence Development Sharing Programme and the Programme for the Advancement of Industrial Technology. The National Research Council and the Defence Research Board both make grants in support of industrial research projects. In addition, the Industrial Research and Development Incentives Act authorizes the Department of Industry to make substantial grants to firms expanding their research and development programs.

Industrial Research and Development Expenditures.—The latest biennial DBS survey of expenditures on industrial research and development in Canada was carried out in 1966 and provided estimates for 1963 to 1966. These are summarized in the following tables; details are contained in the DBS publication *Industrial Research and Development Expenditures in Canada, 1965*.

The type of industrial research and development covered by these surveys ranges from pure research designed to obtain new knowledge in the physical and life sciences to conceiving and developing new products and processes, or major changes in products and processes, and bringing them to the stage of production. Such activities as market research and process and quality control are excluded. Companies surveyed were asked to report the cost of research and development done within the company in Canada and payments for research done outside the company in and outside Canada.

Spending on industrial research and development has increased every year during the period 1963-66. The annual increases in current expenditures from 1963 to 1964 and from 1964 to 1965 were about 20 p.c., but this rate seems to have declined to about 5 p.c. in 1965 to 1966. However, the 1966 estimates are largely forecasts. A possible explanation of this apparent decline may be that several major projects with heavy costs for prototype materials or 'expendable' research equipment are reaching completion. Both the aircraft and primary metals industries forecast declines in expenditures in 1966.

Two other observations may be made from the data in Table 1. The first is that expenditures for research and development plant and equipment seem to continue at a rate of about 20 p.c. of current intramural costs. The second is that the size and relative importance of payments for research and development performed abroad seem to be declining. Indeed, in 1965 companies reported receiving almost as much for such purposes from other countries as they spent abroad.

1.—Total Industrial Research and Development Expenditures, 1963-66

Item	1963 ¹	1964 ¹	1965 ¹	1966 ¹
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Current Expenditures—				
Intramural costs.....	153.6	188.3	235.0	248.0
Wages and salaries.....	81.4	95.0	115.0	128.2
Other.....	72.2	93.3	120.0	119.8
Extramural payments.....	30.8	35.4	29.3	30.5
In Canada ²	1.4	1.6	2.2	2.3
Outside Canada.....	29.4 ³	33.8 ³	27.1	28.2 ³
Totals, Current Expenditures.....	184.4	223.7	264.3	278.5
Capital Expenditures—				
Land and buildings.....	10.6	14.8	13.8	20.6
Equipment.....	17.1	31.7	36.1	31.5
Totals, Capital Expenditures.....	27.7	46.5	49.9	52.2
Totals, All Expenditures.....	212.1	270.2	314.2	330.7

¹ Forecast by respondents.

² Adjusted by DBS to remove those payments made by one Canadian firm to another, since such payments are covered in the intramural costs.

³ DBS estimate.

Table 2 shows the current intramural research and development expenditures by performing industry. In 1965, three industries—electrical products, aircraft and chemical products—accounted for about 57 p.c. of the total expenditures. Since 1955, the year of the first survey, these industries have spent more for current intramural research and development than all others combined.

2.—Current Intramural Research and Development Expenditures, by Industry, 1963-66

Industry	1963 ¹	1964 ¹	1965 ¹	1966 ¹
	\$'000	\$'000	\$'000	\$'000
Mines.....	5,151	6,818	8,404	9,817
Gas and oil wells.....	688	1,293	1,826	1,873
Manufacturing—				
Food and beverages.....	3,788	4,543	5,422	6,097
Rubber.....	1,903	2,099	2,485	3,115
Textiles.....	2,597	2,816	3,366	3,220
Wood.....	154	195	300	297
Furniture and fixtures.....	118	127	114	121
Paper.....	10,885	14,389	14,460	16,174
Primary metals (ferrous).....	3,014	3,777	5,603	4,016
Primary metals (non-ferrous).....	9,054	9,183	9,671	10,348
Metal fabricating.....	3,646	3,170	3,296	3,167
Machinery.....	6,496	7,743	8,154	8,879
Aircraft and parts.....	30,846	40,526	54,469	50,838
Other transportation equipment.....	675	1,811	1,990	1,840
Electrical products.....	30,956	40,015	55,824	60,504
Non-metallic mineral products.....	1,916	1,889	1,784	2,104
Petroleum products.....	7,699	8,655	11,715	15,657
Drugs and medicines.....	4,413	5,583	6,929	8,349
Other chemical products.....	17,985	20,308	22,926	24,860
Scientific and professional instruments.....	5,007	5,366	7,477	7,872
Other manufacturing.....	2,344	3,470	3,776	4,100
Totals, Manufacturing.....	143,596	175,665	219,761	231,558
Transportation and other utilities.....	3,172	3,181	3,389	3,672
Other non-manufacturing.....	987	1,396	1,679	2,063
Totals, All Industries.....	153,594	188,353	235,009	247,983

¹ Forecast by respondents.

Because of difficulties of interpretation and estimation, the figures shown in Table 3 cannot be more than approximations. However, they do indicate that the research and development performed within an industrial group may be for the benefit of some other related industry or for a new 'industry'. Furthermore, company groups may have been assigned to one industry, whereas the activities of the group, including research and development, may actually cover several industries. The relevant table in *Industrial Research and Development Expenditures in Canada, 1965*, which gives the distribution by industry, shows this more clearly. For example, about three quarters of the research and development for rubber products and almost one half of that for textiles are performed by the chemical industry; also, research and development for the aircraft industry is largely for other products—about \$27,000,000 is spent on aircraft, \$10,000,000 on guided missiles and space vehicles, and \$22,000,000 on other transportation equipment.

3.—Current Intramural Research and Development Expenditures, by Product Group, 1965

Product Group	Amount	P.C. of Total	Product Group	Amount	P.C. of Total
	\$'000,000			\$'000,000	
Food and beverages.....	5.2	2.2	Electronic components.....	44.2	18.8
Rubber products.....	3.2	1.3	Electrical industrial apparatus.....	5.6	2.4
Textiles.....	6.5	2.8	Household electrical products.....	2.0	0.9
Forest products.....	12.8	5.5	Other electrical products.....	2.5	1.1
Smelting and refining.....	19.3	8.2	Petroleum and coal products.....	12.1	5.2
Rolling, casting and extruding.....	3.4	1.4	Drugs and medicines.....	7.3	3.1
Fabricated metal products.....	3.1	1.3	Industrial chemicals.....	5.7	2.4
Machinery.....	11.8	5.0	Plastics and synthetic resins.....	7.0	3.0
Scientific and professional instruments.....	5.3	2.3	Other chemicals and chemical products.....	7.5	3.2
Aircraft.....	26.9	11.5	Other.....	8.8	3.7
Guided missiles and space vehicles.....	9.9	4.2			
Motor vehicles.....	3.1	1.3			
Other transportation and equipment.....	21.7	9.2	Totals, All Groups.....	235.0	100.0

For all Canadian industry, the performing company is by far the most important source of funds. However, Table 4 gives sources of funds for total current and capital research and development expenditures. Since capital expenditures are not usually financed by governments or other companies supporting a firm's research and development program, the performing company would be a less dominant source of funds for current intramural expenditures—perhaps accounting for about 65 p.c. rather than 71 p.c. Other significant sources are the Federal Government, foreign governments and foreign related companies. Industries and firms do not rely on the same sources to the same extent. For example, about 67 p.c. of the research and development funds for the aircraft industry seems to come from outside the performing company. The direct support of the Federal Government goes mainly to two industries—aircraft (52 p.c.) and electrical products (31 p.c.). Funds from foreign sources account for about one fifth of all intramural expenditures for the drug, petroleum and aircraft industries.

4.—Sources of Funds for Intramural Research and Development, by Industry, 1965¹

Industry	Canadian Sources				Foreign Sources ²	Total
	Reporting Company	Parent, Affiliated and Subsidiary Companies	Government of Canada	Other ²		
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Mines.....	9,428	22	511	105	315	10,381
Gas and oil wells.....	1,926	427	—	—	601	2,954
Manufacturing—						
Food and beverages.....	6,903	16	299	1	—	7,219
Rubber.....	1,922	—	202	—	852	2,976
Textiles.....	4,269	54	50	18	30	4,421
Wood.....	224	—	—	116	—	340
Furniture and fixtures.....	114	—	—	—	—	114
Paper.....	21,307	974	320	2,198	428	25,227
Primary metals (ferrous).....	7,634	—	47	—	12	7,693
Primary metals (non-ferrous).....	10,201	815	288	203	21	11,528
Metal fabricating.....	3,418	—	193	4	—	3,615
Machinery.....	7,474	—	101	128	729	8,432
Aircraft and parts.....	17,798	219	25,982	3	10,608	54,610
Other transportation equipment.....	1,955	—	46	—	—	2,001
Electrical products.....	43,219	37	15,468	853	3,456	63,033
Non-metallic mineral products.....	1,013	20	220	5	647	1,905
Petroleum products.....	17,767	—	65	87	4,807	22,726
Drugs and medicines.....	7,542	—	403	—	2,289	10,234
Other chemical products.....	27,282	188	601	—	397	28,468
Scientific and professional instruments.....	4,020	—	2,953	263	477	7,713
Other manufacturing.....	2,106	78	1,769	—	50	4,003
Totals, Manufacturing.....	186,168	2,401	49,007	3,879	24,803	266,258
Transportation and other utilities.....	3,488	—	—	—	—	3,488
Other non-manufacturing.....	603	172	421	381	222	1,799
Totals, All Industries.....	201,613	3,022	49,939	4,365	25,941	284,880
Percentage of total funds.....	70.8	1.1	17.5	1.5	9.1	100.0

¹ Includes capital expenditures.
research and development performed under contract for non-related companies.

² Includes the membership fees of research institutes and payments for research and development performed under contract for non-related companies.

³ Includes foreign governments.

Research and Development Expenditures by Provincial Research Councils and Foundations.—Seven provinces have established research councils and foundations (see pp. 422-424), each having the primary role of assisting firms with technical problems and of aiding with the development of provincial natural resources. Table 5 shows the approximate expenditures of these councils or foundations. There seem to be two main differences between the pattern shown here and that apparent in Table 1—the first is that wages and salaries seem to account for a larger portion of current intramural costs and the second is the relative unimportance of extramural payments.

5.—Total Expenditures on Research and Development by Provincial Research Councils and Foundations, 1963-66

Item	1963	1964	1965	1966 ¹
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Current Expenditures—				
Intramural costs.....	5.1	6.0	6.6	7.5
Wages and salaries.....	3.2	3.7	4.1	4.7
Other.....	1.9	2.3	2.5	2.8
Extramural payments.....	0.2	0.2	0.1	0.1
Totals, Current Expenditures.....	5.3	6.2	6.7	7.6
Capital Expenditures.....	1.0	0.7	2.9	4.7
Totals, All Expenditures.....	6.3	6.9	9.6	12.3

¹ Forecast by respondents.

As shown in Table 6, the provincial governments are by far the most important source of funds, although some councils or foundations rely on them more than others. Payments for research and development contracts from Canadian industry are the second largest source of revenue.

6.—Sources of Funds for Research and Development Performed by Provincial Research Councils and Foundations, 1965

Source	Canadian Sources	Foreign Sources	Total
	\$'000,000	\$'000,000	\$'000,000
Own funds.....	0.4	—	0.4
Provincial governments.....	6.2	—	6.2
Government of Canada.....	0.7	—	0.7
Contract work for business enterprises.....	1.4	0.3	1.7
Other.....	0.7	—	0.7
Totals.....	9.4	0.3	9.7

Section 6.—Federal Government Expenditures on Scientific Activities

Information on the expenditures of the Federal Government for scientific activities is provided by annual surveys carried out by the DBS. Each survey covers the actual costs of the preceding fiscal year and the estimated expenditures of the current year on the scientific programs of the reporting departments and agencies. At present, only activities in the physical and life sciences are included, although eventually the surveys will be expanded to include the social sciences. For survey purposes, "scientific activities" consist of research and development, scientific data collection, scientific information, testing and standardization and scientific scholarships. Data are also collected on capital expenditures on plant for scientific activities and on personnel employed in research and development.

The total amount spent by the Federal Government in support of scientific activities has increased substantially during the period shown in Table 7; annual increases in operating costs and grants or contracts were approximately 8 p.c., 23 p.c. and 14 p.c. The conduct of research and development, which includes intramural activities and contracts to other organizations, is the largest individual activity; its costs account for approximately 65 p.c. of all current costs. All research and development financed by the Federal Government represents about 80 p.c. of current expenditures on scientific activities.

7.—Summary Statistics of Federal Government Expenditures on Scientific Activities, Years Ended Mar. 31, 1964-67

Activity and Department or Agency	1963-64 ¹	1964-65 ¹	1965-66 ¹	1966-67 ¹
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Scientific Activity—				
Conduct of research and development.....	179.8	192.4	234.1	262.4
Grants-in-aid of research.....	26.8	36.1	48.9	66.0
Capital expenditures on plant for scientific activities.....	37.3	50.3	55.0	60.4
Scientific data collection.....	22.8	24.0	27.2	30.8
Scientific information.....	12.7	13.0	15.4	18.4
Testing and standardization.....	17.4	14.4	17.7	19.0
Scholarship and fellowship programs.....	2.9	3.8	4.3	5.9
Totals, Scientific Activities.....	299.7	333.9	402.6	462.9
Department or Agency—				
Agriculture.....	30.6	33.4	36.8	41.2
Atomic Energy (incl. Atomic Energy Control Board and Atomic Energy of Canada Limited).....	46.5	54.3	56.5	63.3
Energy, Mines and Resources.....	42.3	43.6	53.0	67.0
National Research Council (incl. Medical Research Council).....	52.5	60.8	79.7	102.4
National Defence—				
Armed Forces.....	31.7	30.7	45.6	44.2
Defence Research Board.....	38.5	39.2	43.6	45.3
Others.....	57.6	71.9	87.4	99.5
Totals, Departments and Agencies.....	299.7	333.9	402.6	462.9

¹ Forecast.

Table 8 shows the expenditures of various departments and agencies of the Government's total current expenditures on scientific activities, the departments supporting defence and industry accounted for about 30 p.c., the five natural resource departments for 30 p.c., the National Research Council for 20 p.c., the two agencies concerned with atomic energy for 12 p.c., and medical research and training for 5 to 6 p.c.

8.—Federal Government Expenditures on Scientific Activities, by Department or Agency, Years Ended Mar. 31, 1966 and 1967

Department or Agency	1965-66 ¹				1966-67 ¹			
	Current Expenditures on Research and Development	Current Expenditures on other Scientific Activities	Capital Expenditures	Total Funds Applied	Current Expenditures on Research and Development	Current Expenditures on other Scientific Activities	Capital Expenditures	Total Funds Applied
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Department of Agriculture.....	29,620	748	6,433	36,801	33,276	914	6,979	41,169
Atomic Energy (incl. Atomic Energy Control Board and Atomic Energy of Canada Limited)....	42,185	99	14,254	56,538	40,381	65	13,892	63,338
Department of Fisheries.....	11,133	105	3,583	14,821	14,938	165	5,364	20,467
Department of Forestry and Rural Development.....	9,285	4,038	1,573	14,896	11,034	5,251	3,123	19,408
Department of Industry.....	25,576	—	—	25,576	31,000	—	—	31,000
Medical Research Council.....	11,591	794	—	12,385	11,517	969	—	12,486
Department of Energy, Mines and Resources.....	18,453	26,308	8,219	52,980	22,642	29,046	15,275	66,963
Department of National Health and Welfare.....	6,768	1,620	6,919	15,307	7,039	1,916	3,101	12,056
National Research Council.....	53,021	8,152	6,088	67,261	72,087	10,442	7,344	89,873
Department of Indian Affairs and Northern Development.....	1,216	635	407	2,258	1,611	856	895	3,362
Department of the Secretary of State.....	510	555	5	1,070	715	765	10	1,490
Department of Transport.....	2,438	193	5,435	8,066	3,374	405	1,459	5,238
Department of Veterans Affairs.....	425	—	—	425	430	—	—	430
Other civilian departments or agencies.....	860	4,095	73	5,028	1,025	4,799	267	6,091
Totals, excluding National Defence.....	213,081	47,342	52,989	313,412	260,069	55,593	57,709	373,371
Department of National Defence...	69,943	17,297	1,964	89,204	68,330	18,438	2,739	89,507
Armed Forces.....	28,487	17,080	10	45,577	25,343	18,181	700	44,224
Defence Research Board.....	41,456	217	1,954	43,627	42,987	257	2,039	45,283
Totals, All Departments and Agencies.....	283,024	64,639	54,953	402,616	328,399	74,031	60,448	462,878

¹ Forecast.

The Federal Government is the sole source of funds considered here but it is not the sole performer. Although most of the Government-funded research and development continues to be performed within its own establishments, the Government's support of outside research has increased noticeably during the past four years. Canadian industry and universities have both received a greater share, the relative expenditures on the Government's intramural program having decreased from about 70 p.c. in 1963-64 to about 60 p.c. in 1966-67.

**9.—Federal Government Current Expenditures on Research and Development,
Years Ended Mar. 31, 1964-67**

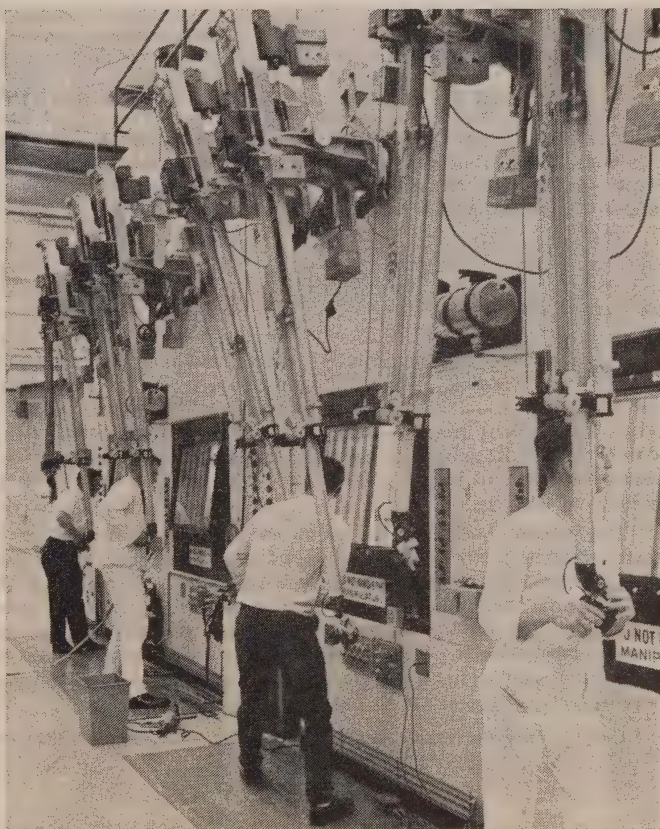
Performing Organization	1963-64 ¹	1964-65 ¹	1965-66 ¹	1966-67 ¹
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Reporting unit.....	147.3	152.9	173.1	201.2
Canadian industry.....	35.8	45.0	66.7	71.6
Educational institutions and individuals at such institutions.....	19.0	26.9	37.7	50.0
Others (incl. non-profit organizations, other governments and foreign recipients).....	4.4	3.6	5.5	5.6
Totals, Expenditures.....	206.5	228.4	283.0	328.4

¹ Forecast.

It is estimated that a full-time equivalent of about 18,600 persons was engaged in Government intramural research and development in 1966. Of these persons, about 5,000 were scientists or engineers. The Department of Agriculture, Atomic Energy of Canada Limited, the Defence Research Board and the National Research Council had the largest programs.

The latest facility in Canada's research program is the Whiteshell Nuclear Research Establishment at Pinawa, Manitoba, where hundreds of scientists and technicians are probing the economic production of nuclear power and conducting a mass of related studies in the fields of chemistry, chemical engineering, fuel development, medicine and metallurgy.

A series of heavily shielded rooms, or 'caves', are equipped with manipulators to permit the delicate handling of highly radioactive materials.



CHAPTER IX.—CRIME AND DELINQUENCY*

CONSPECTUS

	PAGE		PAGE
SECTION 1. CANADIAN CRIMINAL LAW AND PROCEDURE.....	434	SECTION 3. JUVENILE DELINQUENTS.....	449
SECTION 2. ADULT OFFENDERS AND CONVICTIONS.....	438	SECTION 4. CORRECTIONAL INSTITUTIONS AND TRAINING SCHOOLS.....	452
Subsection 1. Adults Convicted of Indictable Offences.....	438	Subsection 1. Statistics of Correctional Institutions and Training Schools.....	452
Subsection 2. Young Adult Offenders (16-24 Years) Convicted of Indictable Offences	445	Subsection 2. The Canadian Penitentiary Service.....	454
Subsection 3. Convictions for Summary Conviction Offences.....	447	Subsection 3. The National Parole System	455
Subsection 4. Appeals.....	448	SECTION 5. POLICE FORCES AND CRIME STATISTICS.....	456

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Section 1.—Canadian Criminal Law and Procedure†

The system under which justice is administered in a State is never rigid. To have it so would be neither expedient nor indeed possible. A judicial system must grow and adapt itself to the requirements of the people, and the exact limits of the powers of different legislative bodies require continued definition.

The criminal law of Canada has as its foundation the criminal common law of England built up through the ages and consisting first of customs and usages and later expanded by principles enunciated by generations of judges. There is no statutory declaration of the introduction of English criminal law into those parts of Canada that are now the Provinces of New Brunswick, Nova Scotia and Prince Edward Island. Its introduction there depends upon a principle of the common law itself by which English law was declared to be in force in uninhabited territory discovered and planted by British subjects, except in so far as local conditions made it inapplicable. The same may be said of Newfoundland although the colony dealt with the subject in a statute of 1837. In Quebec its reception depends upon a Royal Proclamation of 1763 and the Quebec Act of 1774. In each of the other provinces and in the Yukon and Northwest Territories the matter has been dealt with by statute.

The judicial systems of the provinces as they exist today are based upon the British North America Act of 1867. Sect. 91 of the Act provides that "The exclusive legislative authority of the Parliament of Canada extends to . . . the criminal law, except the constitution of courts of criminal jurisdiction but including the procedure in criminal matters". By Sect. 92 (14), the legislature of the province exclusively may make laws in relation to "the administration of justice in the province, including the constitution, maintenance and organization of provincial courts, both of civil and criminal jurisdiction and including procedure in civil matters in its courts". The Parliament of Canada may, however

* Except as otherwise credited, this Chapter has been revised in the Judicial Section, Health and Welfare Division, Dominion Bureau of Statistics.

† Prepared by the Criminal Law Section, Department of Justice, Ottawa.

(Sect. 101), establish any additional courts for the better administration of the laws of Canada. It should be noted that the Statute of Westminster, 1931 effected important changes, particularly by abrogating the Colonial Laws Validity Act, 1865 (Br.) and confirming the right of a dominion to make laws having extraterritorial operation. Particulars of the federal judiciary are given in Chapter II, pp. 94-96, and provincial judiciaries are dealt with briefly at p. 96.

At the time of Confederation each of the colonies affected had its own body of statutes relating to the criminal law. In 1869, in an endeavour to assimilate them into a uniform system applicable throughout Canada, Parliament passed a series of Acts, some of which dealt with offences of special kinds and others with procedure. Most notable of the latter was the Criminal Procedure Act, but other Acts provided for the speedy trial or summary trial of indictable offences, the powers and jurisdiction of justices of the peace in summary conviction matters and otherwise, and the procedure in respect of juvenile offenders.

Codification of the criminal law through a Criminal Code Bill founded on the English draft code of 1878, Stephen's *Digest of Criminal Law*, Burbridge's *Digest of the Canadian Criminal Law*, and the relevant Canadian statutes was brought about by the Minister of Justice, Sir John Thompson, in 1892. This Bill became the Criminal Code of Canada and came into force on July 1, 1893. It must be remembered, however, that the Criminal Code was not exhaustive of the criminal law. It was still necessary to refer to English law in certain matters of procedure and it was still possible to prosecute for offences at common law. Moreover, Parliament has declared offences against certain other Acts, e.g., the Narcotic Control Act, to be criminal offences and the same was done in the Defence of Canada Regulations and the Wartime Prices and Trade Board Regulations (neither now in force) promulgated under the authority of the War Measures Act.

It is often difficult to distinguish between 'law' and 'procedure'. Procedure may be interpreted to relate simply to the organic working of the courts but, in a wider sense, it may also affect the rights or alter the legal relations arising out of any given state of facts. For present purposes it will be useful to note that writers on jurisprudence describe law as being substantive or adjective. "Substantive law is concerned with the ends which the administration of justice seeks; procedural (adjective) law deals with the means and instruments by which these ends are to be obtained."* With reference to the criminal law, the former may be taken to include the provisions concerning criminal responsibility, the definition of 'offences' and the punishment for those offences, and the latter to include provisions for enforcement, e.g., powers to search and to arrest, for the modes of trial and for the proof of facts. Broadly speaking, the Criminal Code observes the distinction although it might appear that the provisions for preventive detention of habitual criminals and dangerous sexual offenders partake of the nature of both classes.

An examination and study of the Criminal Code was authorized by Order in Council dated Feb. 3, 1949, and the Commission assigned the task of revising the Code presented its report with a draft Bill in February 1952. After coming before successive sessions of Parliament it was finally enacted on June 15, 1954 and the new Criminal Code (SC 1953-54, c. 51) came into effect on Apr. 1, 1955. Since the new Code came into force several amendments have been made, for the most part in relation to procedure. Among the most notable of these, as well in point of procedure as of substance, are: an amendment in 1956 providing that motions for leave to appeal to the Supreme Court of Canada in criminal cases should be heard by a quorum (at least five) of judges of that Court instead of a single judge; amendments effected by SC 1959, c. 41, providing a statutory extension of the definition of "obscenity" and making provision for seizure and condemnation of offending material without a charge necessarily being laid against any person; extensive amendments relating to the allowing of time for payment of fines; amendments dealing with offences committed in aircraft in flight over the high seas; an amendment forbidding the publication in a newspaper or broadcast of a report that any admission or confession was tendered in evidence

* Salmond on *Jurisprudence*, 7th Edition, p. 496.

at a preliminary inquiry or a report of the nature of such admission or confession unless the accused has been discharged or, if the accused has been committed for trial, the trial has ended.

The Parole Act (SC 1958, c. 38), brought into force on Feb. 15, 1959, revises the parole system and provides for the establishment of a National Parole Board (see pp. 455-456).

It is most important to note that in 1960 (SC 1960, c. 44) Parliament enacted what is known as the Canadian Bill of Rights. Although the Act sets out further details, its general scope appears in Sect. 1, which reads as follows:—

"1. It is hereby recognized and declared that in Canada there have existed and shall continue to exist without discrimination by reason of race, national origin, colour, religion or sex, the following human rights and fundamental freedoms, namely,

- (a) the right of the individual to life, liberty, security of the person and enjoyment of property, and the right not to be deprived thereof except by due process of law;
- (b) the right of the individual to equality before the law and the protection of the law;
- (c) freedom of religion;
- (d) freedom of speech;
- (e) freedom of assembly and association; and
- (f) freedom of the press."

Although the Bill of Rights has been invoked on various occasions, the courts have not held it to affect the operation of the Criminal Code.

In 1961 (SC 1960-61, cc. 43-44), the offence of murder was divided into capital and non-capital, the death penalty was abolished in relation to the offence of non-capital murder, and the term *criminal sexual psychopath* was dropped and the term *dangerous sexual offender* substituted; in 1965 (SC 1964-65, c. 53) provision was made for the right to appeal in *habeas corpus* proceedings.

The concept of "non-capital murder" was introduced into Canadian criminal law in 1961. At that time, capital murder was defined to include, for example, planned and deliberate murder, murder in the course of certain violent acts and murder of peace officers and prison officers. Life imprisonment was substituted for the death penalty in cases where the accused was convicted of non-capital murder. In 1966, the House of Commons, on a free vote, rejected a Bill under which the death penalty for murder would have been completely abolished but in 1967 (SC 1967-68 c. 15) an Act was passed under which the definition of capital murder is restricted to the murder of peace officers or prison officers. This Act was brought into force on Dec. 29, 1967, and will continue in force for a period of five years from that day. The Act will then expire unless before the end of the five-year period Parliament by a joint resolution of both Houses directs that it shall continue in force. If the Act is not continued in force before the expiry of the five-year period, the broader definition of capital murder introduced in 1961 will again come into operation. It should be noted that the law contains a provision whereby a person in respect of whom sentence of death has been commuted or a person who has been sentenced to life imprisonment for capital murder shall not be released without the prior approval of the Governor in Council.

A Bill (C-195) proposing a number of changes in criminal law and procedure was introduced and given first reading in the House of Commons on Dec. 21, 1967.* The proposals relating to the Criminal Code constitute the most comprehensive review of that Code since it came into force on Apr. 1, 1955. Among the changes to the substantive law proposed in the Bill are amendments relating to gaming and lotteries, "drinking and driving", homosexual acts and therapeutic abortion.

* At date of printing (March 1968) this Bill had not yet come before the House of Commons for second reading.

At present, lotteries and games of chance or mixed chance and skill are, with limited exceptions, unlawful. Under the proposals in the Bill, it would be lawful for the Federal Government to conduct a lottery and for a provincial government to pass legislation enabling it to conduct a lottery either alone or in conjunction with one or more other provincial governments. The proposals would also enable provincial authorities to issue licences under which charitable and religious organizations would be authorized to conduct lotteries and games and under which agricultural fairs and exhibitions would no longer be restricted to lotteries and games conducted on the exhibition grounds.

Under a proposed amendment in the Bill, a person would be guilty of an offence if he drives a motor vehicle while the proportion of alcohol in his blood exceeds one tenth of one per cent. It would be compulsory for a driver to take a blood test when required to do so by a peace officer who has reasonable and probable grounds to believe that the person's ability to drive is impaired and it would be an offence for a person to fail or refuse without reasonable excuse to take a blood test when so required. It is also proposed that, where such blood test is taken within two hours of the alleged offence and the various conditions set out in the legislation relating to the taking of the test are complied with, the result of the test would be *prima facie* evidence of the proportion of alcohol in the driver's blood.

The Bill also contains provisions whereby therapeutic abortion would not be unlawful where the operation is carried out after the therapeutic abortion committee of an accredited hospital has certified that the continuation of the pregnancy would or would be likely to endanger the life or health of the female. Under the proposed amendments, the operation could be performed only by a duly qualified medical practitioner and only in an accredited hospital and the Minister of Health of a province would be entitled to information relating to the issue of a certificate and to the operation.

The Bill also contains a provision, the principal effect of which would be to remove from the ambit of the criminal law homosexual acts committed in private between two consenting adults.

Other significant changes proposed in the Bill relate to the publication of the evidence at preliminary enquiries, the procedure in the case where an accused person may be unfit to stand trial, the use of suspended sentence and probation, and certain new rights of appeal.

As noted earlier in this Section, an amendment was made to the Criminal Code in 1959 restricting the publication of an admission or confession at a preliminary inquiry. Under a proposal contained in the Bill, provision would be made whereby, on the application of the accused, the magistrate or justice holding a preliminary inquiry may make an order forbidding publication of *any* of the evidence until the accused has been discharged or, if he has been committed for trial, the trial has ended. Apart from such an order, of course, the present prohibition against publishing an admission or confession would remain.

At present, where there is reason to believe that the accused person is unfit on account of insanity to stand trial, the issue of his fitness to stand trial is decided as soon as it arises. If the court decides that the accused is not fit to stand trial, he is detained in custody at the pleasure of the Lieutenant-Governor. As the merits of the case against him are not tried, it is possible for an innocent person to be so detained. Under the proposed amendments, the court would have the power to postpone dealing with the issue of fitness to stand trial until after the prosecutor has presented his evidence. If the prosecutor's evidence is not sufficiently strong to make out a case, the accused would be acquitted and set free. If he required treatment for a mental condition, he would be dealt with under the applicable provincial mental health legislation instead of under the Criminal Code. In addition, in order to safeguard the rights of those persons who are found unfit to stand

trial and therefore detained in custody, the Lieutenant-Governor of the province would be authorized to appoint a board to review at least every six months the case of every person so detained. This same board would also review at least every six months the case of every person who is held in custody in the province following an acquittal on account of insanity at the time the offence was committed.

In regard to sentence, the Bill contains provisions which would enable courts to make more liberal use of suspended sentences, with or without probation. At present, the fact that the offender has more than one previous conviction generally prevents the court from suspending the passing of sentence. The proposed amendments would remove this restriction; would enable probation orders to be transferred from one province to another; would enable the court to make a probation order in addition to a sentence of imprisonment not exceeding two years; and would make it a substantive offence, punishable on summary conviction, for a person on probation wilfully to refuse to comply with the probation order.

The Bill also contains amendments relating to appeals by way of new trial in summary conviction cases which are designed to make the institution of such appeals less complicated and costly. At present, for example, the appellant must supply the appeal court with a transcript of the evidence taken at the trial, unless the appeal court makes an order dispensing with such transcript. Under a proposal contained in the Bill, it would no longer be necessary for the appellant to provide the transcript unless the appeal court specifically ordered him to do so.

The Bill also proposes to narrow the definition of "dangerous sexual offender" which was introduced in 1961 (SC 1960-61, cc. 43-44) and to give the court of appeal express power to order a new hearing in the case of an appeal arising out of an application for preventive detention of a person as a habitual criminal or as a dangerous sexual offender.

Section 2.—Adult Offenders and Convictions

Offences may be classified under two headings, "indictable offences" and "offences punishable on summary conviction". Indictable offences are grouped in two main categories: (1) offences that violate the Criminal Code and (2) offences against federal statutes. These include the graver crimes. Offences punishable on summary conviction—those not expressly made indictable—include offences against the Criminal Code, provincial statutes and municipal by-laws. It is debatable how far some summary conviction offences are of a criminal nature and whether their increase indicates an increase in crime. Many are breaches of municipal by-laws and contrary to public safety, health and comfort, as, for example, parking violations or practising trades without licence but, on the other hand, summary conviction offences may include such serious charges as assault and contributing to juvenile delinquency.

The following Subsection 1 deals with adults convicted of indictable offences, Subsection 2 with young adult offenders convicted of indictable offences, Subsection 3 with convictions for summary conviction offences and Subsection 4 with appeals.

Subsection 1.—Adults Convicted of Indictable Offences

Statistics of indictable crimes are based on persons, so that it may be possible to evaluate the population engaged in prohibited activities and to help in the treatment of anti-social behaviour in terms of subject-centred action. In the present counting system, although individuals may be charged with more than one offence, only one offence is tabulated for each person. This offence is selected according to the following criteria:

(1) if the person were tried on several charges, the offence selected is that for which proceedings were carried to the farthest stage—conviction and sentence; (2) if there were several convictions, the offence selected is that for which the heaviest punishment was awarded; (3) if the final result of proceedings on two or more charges were the same, the offence selected is the more serious one, as measured by the maximum penalty allowed by the law; (4) if a person were prosecuted for one offence and convicted of another—for example, charged with murder and convicted of manslaughter—the offence selected is the one for which the person was convicted.

In 1965 there were 46,662 adults charged with 83,796 indictable offences, of whom 41,832 were found guilty of 75,300 offences. In the previous year there were 46,551 adults charged with 84,546 indictable offences, of whom 42,097 were found guilty of 76,310 offences.

1.—Persons Charged and Persons Convicted of Indictable Offences, with Ratio per 100,000 Population 16 Years of Age or Over, by Province, 1964 and 1965

Province or Territory	Persons Charged		Persons Convicted				Persons Convicted per 100,000 Population 16 Years of Age or Over	
			1964		1965		1964	1965
	No.	No.	No.	p. c.	No.	p. c.	No.	No.
Newfoundland.....	859	784	825	96.0	761	97.1	296	267
Prince Edward Island.....	51	183	48	94.1	178	97.3	72	262
Nova Scotia.....	1,656	1,625	1,470	88.8	1,446	89.0	304	297
New Brunswick.....	1,246	1,065	1,199	96.2	1,034	97.1	320	271
Quebec.....	9,559	10,130	8,670	90.7	9,095	89.8	246	251
Ontario.....	16,122	16,392	14,063	87.2	14,393	87.8	324	323
Manitoba.....	2,902	2,906	2,757	95.0	2,643	90.9	438	417
Saskatchewan.....	2,210	2,028	2,099	95.0	1,890	92.2	349	310
Alberta.....	4,860	4,526	4,608	94.8	4,234	93.5	514	465
British Columbia.....	6,903	6,789	6,188	89.6	5,941	87.5	530	493
Yukon and Northwest Territories.....	182	234	170	93.4	217	92.7	726	969
Canada.....	46,551	46,662	42,097	90.4	41,832	89.6	340	330

Table 2 classifies indictable offences by type of offence for 1964 and 1965. Class I covers offences against the person and in 1965 there were 6,072 males and 313 females convicted in this category, mostly for assaults of various kinds. Classes II to IV deal with offences against property. Thefts predominate among the offences in these classes, and breaking and entering and robbery, serious crimes which involve acts of violence, are the next most numerous. Class V deals with offences relating to currency and Class VI with miscellaneous offences; among the latter, the most numerous convictions are for offences connected with gaming, betting and lotteries. In 1965 there were 279 men and 124 women convicted under federal statutes of whom 225 men and 119 women were offenders under the Narcotic Control Act.

**2.—Persons Charged and Convicted of Indictable Offences, by Class of Offence,
1964 and 1965**

Class of Offence	1964			1965			Increase or Decrease in Persons Convicted
	Persons Charged	Persons Convicted		Persons Charged	Persons Convicted		
		M.	F.		M.	F.	
	No.	No.	No.	No.	No.	No.	p.c.
Criminal Code							
Class I.—Offences against the Person	7,562	6,036	281	7,659	6,072	313	+1.1
Abduction and kidnapping.....	67	52	1	76	49	2	-3.8
Assault, causing bodily harm, common, on police and obstruction...	5,178	4,201	193	5,386	4,357	222	+4.2
Offences against females ¹	1,000	748	19	1,014	751	23	+0.9
Causing death by criminal negligence, ² manslaughter and murder.	206	131	6	208	134	7	+2.9
Attempted murder, causing bodily harm and danger.....	208	131	26	249	156	24	+14.6
Criminal negligence in operation of motor vehicle.....	29	27	—	41	27	1	+3.7
Duties tending to preservation of life.....	20	12	—	20	15	1	+33.3
Other offences against the person...	854	734	36	695	583	33	-20.0
Class II.—Offences against Property with Violence	8,978	8,236	163	8,614	7,860	167	-4.4
Breaking and entering a place, extortion and robbery.....	8,978	8,236	163	8,614	7,860	167	-4.4
Class III.—Offences against Property without Violence	23,334	18,377	3,066	23,328	17,634	3,647	-0.8
Fraud and false pretences.....	2,849	2,241	274	2,749	2,136	300	-3.1
Having in possession.....	2,625	2,165	114	2,607	2,109	120	-2.2
Theft.....	17,860	13,971	2,678	17,972	13,389	3,227	-0.2
Class IV.—Malicious Offences against Property	1,104	925	44	1,182	976	46	+5.5
Arson and other fires.....	131	92	12	134	97	10	+2.9
Other interference with property...	973	833	32	1,048	879	36	+5.8
Class V.—Forgery and Other Offences Relating to Currency	1,315	1,087	151	1,389	1,118	195	+6.1
Forgery and uttering forged documents.....	1,269	1,049	151	1,302	1,052	186	+3.2
Offences relating to currency.....	46	38	—	87	66	9	+97.4
Class VI.—Other Offences	3,812	3,025	350	3,934	3,053	348	+0.8
Driving while ability to drive is impaired.....	422	347	6	281	237	3	-32.0
Driving while intoxicated.....	26	21	1	31	28	—	+27.3
Gaming, betting and lotteries.....	690	550	50	632	509	51	-6.7
Keeping bawdy houses.....	246	37	183	212	31	160	-13.2
Various other offences.....	2,428	2,070	110	2,778	2,248	134	+9.3
Totals, Criminal Code	46,105	37,686	4,055	46,136	36,713	4,716	-0.7
Federal Statutes							
Narcotic Control Act.....	376	194	106	465	225	119	+14.7
Other statutes.....	70	47	9	61	54	5	+5.4
Totals, Federal Statutes	446	241	115	526	279	124	+13.2
Grand Totals	46,551	37,927	4,170	46,662	36,992	4,840	-0.6

¹ Includes abortion, indecent assault on female, sexual intercourse and attempt, incest, procuring, rape, attempted rape and seduction. ² Includes causing death in the operation of a motor vehicle or otherwise.

Table 3 shows that 39.5 p.c. of the persons convicted of indictable offences in 1965 had not gone beyond elementary school grades in education, 53.5 p.c. were 24 years of age or younger, 31.3 p.c. were between the ages of 25 and 44, and 78.3 p.c. lived in urban centres. Of these offenders, 88.4 p.c. were males, 84.9 p.c. were born in Canada, 60.7 p.c. were single, 19.4 p.c. were recorded as labourers and 12.6 p.c. had no remunerative employment.

3.—Persons Convicted of Indictable Offences classified by Occupation, Marital Status, Sex, Birthplace, etc., 1964 and 1965

Item	1964	1965	Item	1964	1965
No.	No.	No.	No.	No.	No.
Total Persons Convicted.....	42,097	41,832	SEX		
TYPE OF OCCUPATION			Male.....	37,927	36,992
Agriculture.....	1,518	1,177	Female.....	4,170	4,840
Armed Services.....	300	237	EDUCATIONAL STATUS		
Clerical.....	1,228	1,244	Unable to read or write.....	334	346
Commercial and managerial.....	2,247	2,088	Elementary.....	17,894	16,168
Construction.....	4,334	4,169	High school.....	16,965	16,888
Finance.....	53	44	Superior.....	615	603
Fishing, trapping and logging.....	1,588	1,480	Grade not stated.....	935	1,340
Labourer.....	8,447	8,132	Not given.....	5,354	6,487
Manufacturing and mechanical.....	3,873	3,839	AGE		
Mining.....	592	612	16 to 19 years.....	13,657	13,450
Service—			20 to 24 years.....	9,087	8,942
Domestic.....	1,069	913	25 to 44 years.....	13,473	13,090
Personal.....	1,349	1,407	45 years or over.....	3,601	3,547
Professional.....	399	457	Not given.....	2,279	2,803
Public and protective.....	84	65	BIRTHPLACE		
Other.....	129	117	Canada.....	36,207	35,497
Student.....	3,895	3,948	British Isles and other Common-wealth.....	797	842
Transportation and communica-tions.....	2,740	2,713	United States.....	325	288
Unemployed and retired (incl. housewives).....	5,075	5,279	Europe.....	1,840	1,878
Not given.....	3,177	3,911	Asia.....	72	85
MARITAL STATUS			Other foreign countries.....	23	36
Single.....	26,395	25,389	Not given.....	2,833	3,206
Married.....	10,769	10,640	RESIDENCE		
Widowed.....	443	367	Urban centres.....	32,704	32,747
Divorced.....	426	436	Rural districts.....	7,311	6,944
Separated.....	1,722	1,686	Indeterminate.....	841	874
Not given.....	2,342	3,314	Not given.....	1,241	1,267

Female Offenders.—There were 4,840 female offenders convicted of indictable offences in 1965 compared with 4,170 in 1964. Of these offenders, Ontario accounted for 1,868, Quebec for 1,010 and British Columbia for 705. The ratio of female offenders convicted to total persons convicted moved upward from 9.9 p.c. in 1964 to 11.6 p.c. in 1965, ranging from 4.6 p.c. in the Yukon and Northwest Territories to 13.7 p.c. in Manitoba.

4.—Females Convicted of Indictable Offences, by Province, 1964 and 1965

Province or Territory	Females Convicted		Females Convicted to Total Persons Convicted	
	1964	1965	1964	1965
	No.	No.	p.c.	p.c.
Newfoundland.....	81	80	9.8	10.5
Prince Edward Island.....	4	9	8.3	5.1
Nova Scotia.....	83	109	5.6	7.5
New Brunswick.....	76	68	6.3	6.6
Quebec.....	784	1,010	9.0	11.1
Ontario.....	1,667	1,868	11.9	13.0
Manitoba.....	269	363	9.8	13.7
Saskatchewan.....	172	166	8.2	8.8
Alberta.....	378	452	8.2	10.7
British Columbia.....	647	705	10.5	11.9
Yukon and Northwest Territories.....	9	10	5.3	4.6
Canada.....	4,170	4,840	9.9	11.6

Multiple Convictions.—Table 5 shows the number of persons having more than one conviction at a court appearance for the years 1961 to 1965. Multiple convictions occur most often in cases of forgery and uttering, false pretences, theft, having in possession, and breaking and entering.

5.—Persons Convicted of More than One Offence at the Time of Trial compared with Persons Convicted of One Offence, 1961-65

Item	1961	1962	1963	1964	1965
	No.	No.	No.	No.	No.
Persons Convicted of—					
2 offences.....	5,463	5,669	6,244	6,085	5,754
3 offences.....	2,040	2,046	2,155	2,094	2,063
4 offences.....	1,080	1,023	1,164	1,052	1,045
5 offences.....	593	594	615	587	564
6 offences.....	357	389	407	412	399
7 offences.....	279	262	276	258	270
8 offences.....	207	194	217	209	213
9 offences.....	146	140	170	151	156
10 offences.....	125	118	123	121	138
11 to 20 offences.....	423	416	491	476	440
21 offences or over.....	144	151	169	151	158
Totals, Convicted of More than One Offence.....	10,857	11,002	12,031	11,596	11,200
Totals, Convicted of One Offence.....	27,822	27,661	30,883	30,501	30,632
Grand Totals.....	38,679	38,663	42,914	42,097	41,832

Disposition of Cases and Previous Convictions.—As shown in Table 1, p. 439, of all suspects before the courts for indictable offences in 1965, 89.6 p.c. were adjudged guilty. There was, however, considerable variation among the provinces in this respect, the proportion ranging from 87.5 p.c. in British Columbia to 97.3 in Prince Edward Island.

Table 6 shows that of the 41,832 persons convicted in 1965, 26.2 p.c. had no previous conviction, 14.0 p.c. had previously been found guilty of one offence and 32.6 p.c. had two or more earlier convictions; court records for the other 27.2 p.c. were not obtained. There is little change in these percentages from year to year.

6.—Persons Charged with Indictable Offences, Disposition of Cases and Previous Convictions, 1964 and 1965

Item	1964	1965	Item	1964	1965
	No.	No.		No.	No.
Charged.....	46,551	46,662	Males convicted.....	37,527	36,992
Acquitted.....	4,090	4,305	Females convicted.....	4,170	4,840
Disagreement of jury.....	9	5	First conviction.....	11,047	10,966
Stay of proceedings.....	255	435	Second conviction.....	6,087	5,853
No Bill.....	34	23	Reiterated convictions.....	14,041	13,629
Detained because of insanity.....	66	62	Not given.....	10,922	11,384

8.—Method of Trial of Persons Charged with Indictable Offences, showing Disposition of Cases, by Sex and by Province, 1965—concluded

Method of Trial and Sex	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T. and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
By Judge and Jury—concluded												
Disagreement of jury...M.	—	—	1	—	1	3	—	—	—	—	—	5
F.	—	—	—	—	—	—	—	—	—	—	—	—
Stay of proceedings...M.	—	—	1	—	—	3	2	—	1	19	—	26
F.	—	—	—	—	—	—	—	—	—	1	—	1
No Bill.....M.	—	—	1	—	—	20	—	—	—	—	—	21
F.	—	—	—	—	—	2	—	—	—	—	—	2
By a Judge Without Jury—												
Convicted.....M.	1	3	60	19	1,065	275	48	70	230	99	8	1,878
F.	—	1	2	—	63	24	2	1	18	13	—	124
Acquitted.....M.	—	—	12	—	335	72	17	18	62	36	3	555
F.	—	—	—	—	16	7	1	1	4	3	—	32
Detained because of insanity.....M.	—	—	—	—	6	1	—	—	1	—	—	8
F.	—	—	—	—	—	—	—	—	1	—	—	1
Stay of proceedings...M.	—	—	—	—	4	—	2	1	4	7	—	18
F.	—	—	—	—	—	—	—	—	2	—	—	2
By a Magistrate with Consent—												
Convicted.....M.	448	69	705	507	3,696	7,113	1,055	861	1,817	2,397	105	18,773
F.	20	1	30	16	383	515	58	42	115	219	2	1,401
Acquitted.....M.	10	3	87	13	350	802	33	33	73	235	4	1,643
F.	1	—	3	—	44	85	2	3	6	42	—	185
Detained because of insanity.....M.	2	—	2	—	12	10	—	—	2	3	—	31
F.	—	—	—	—	1	—	—	—	1	—	—	2
Stay of proceedings...M.	—	—	—	—	1	—	70	—	2	113	—	186
F.	—	—	—	—	—	—	9	—	—	28	—	37
By a Magistrate, Absolute Jurisdiction—												
Convicted.....M.	229	96	551	424	3,200	4,868	1,130	758	1,722	2,623	86	15,687
F.	60	7	77	52	557	1,320	302	123	318	466	8	3,290
Acquitted.....M.	5	2	56	10	210	739	25	60	120	201	9	1,437
F.	3	—	7	—	25	119	7	11	10	22	—	204
Detained because of insanity.....M.	—	—	2	—	5	—	—	—	—	4	—	11
F.	—	—	—	—	1	1	—	—	—	—	—	2
Stay of proceedings...M.	—	—	—	—	—	—	71	—	1	54	—	126
F.	—	—	—	—	—	—	14	—	—	25	—	39
Totals, Persons Charged	784	183	1,625	1,065	10,130	16,392	2,906	2,028	4,526	6,789	234	46,662
Totals, Persons Con- victed.....	761	178	1,446	1,034	9,095	14,393	2,643	1,890	4,234	5,941	217	41,832

9.—Persons Charged and Convicted of Indictable Offences according to Trial Court, by Province, 1964 and 1965

Province or Territory and Item	1964					1965				
	Persons Charged and Convicted by—					Persons Charged and Convicted by—				
	Police Magistrate and Municipal Court	Juvenile or Family Court	County Court	Higher Court	Total	Police Magistrate and Municipal Court	Juvenile or Family Court	County Court	Higher Court	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland—										
Charged.....	791	60	1	7	859	761	17	1	5	784
Convicted.....	762	60	—	3	825	740	17	1	3	761
Prince Edward Island—										
Charged.....	43	1	7	—	51	178	—	4	1	183
Convicted.....	43	1	4	—	48	173	—	4	1	178
Nova Scotia—										
Charged.....	1,523	4	99	30	1,656	1,511	9	77	28	1,625
Convicted.....	1,369	4	78	19	1,470	1,354	9	64	19	1,446
New Brunswick—										
Charged.....	1,200	5	26	15	1,246	1,012	10	31	12	1,065
Convicted.....	1,160	5	22	12	1,199	989	10	27	8	1,034
Quebec—										
Charged.....	6,271	1,615	1,531	142	9,559	6,866	1,619	1,498	147	10,130
Convicted.....	5,787	1,606	1,171	106	8,670	6,228	1,608	1,133	126	9,095
Ontario—										
Charged.....	15,103	108	748	163	16,122	15,509	63	699	121	16,392
Convicted.....	13,333	100	519	111	14,063	13,756	60	502	75	14,393
Manitoba—										
Charged.....	2,338	429	76	60	2,903	2,379	397	71	59	2,906
Convicted.....	2,227	423	59	48	2,757	2,162	383	50	48	2,643
Saskatchewan—										
Charged.....	2,053	5	101	51	2,210	1,884	6	96	42	2,028
Convicted.....	1,991	5	68	35	2,099	1,779	5	75	31	1,890
Alberta—										
Charged.....	4,606	1	31	222	4,860	4,173	14	49	290	4,526
Convicted.....	4,425	1	20	162	4,608	3,958	14	38	224	4,234
British Columbia—										
Charged.....	5,464	1,038	246	155	6,903	5,548	884	211	146	6,789
Convicted.....	4,874	1,024	180	110	6,188	4,846	859	142	94	5,941
Yukon and Northwest Territories—										
Charged.....	163	—	8	11	182	214	—	11	9	234
Convicted.....	158	—	8	4	170	201	—	8	8	217
Canada—										
Charged.....	39,555	3,266	2,874	856	46,551	40,035	3,019	2,748	860	46,662
Convicted.....	36,129	3,229	2,129	610	42,097	36,186	2,965	2,044	637	41,832

Subsection 2.—Young Adult Offenders (16-24 Years) Convicted of Indictable Offences

Attention has been focused in recent years on the needs of the young adult offenders of from 16-24 years of age who constitute a promising field for modern reception and diagnostic facilities equipped with educational, trade training and other formative disciplines. The young men and women in this age group account for 21.9 p.c. of the total population 16 years of age or over, but they form over half the criminal population

committing indictable offences. The group includes some of the most daring offenders who already may be experienced criminals as well as first offenders likely to be turned from crime by further education and training. There were 22,392 young adult offenders in 1965, a total little changed from the previous year.

10.—Young Adult Offenders, by Age Group, Sex and Province, 1964 and 1965

Year, Age Group and Sex	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T. and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1964												
16 - 17 years.....M.	195	14	267	188	1,715	2,371	446	331	763	1,162	17	7,469
F.	8	—	13	9	56	167	21	25	3	85	2	429
18 - 19 ".....M.	113	3	262	195	1,019	1,781	364	318	604	670	13	5,342
F.	8	—	14	11	65	152	39	23	49	55	1	417
20 - 24 ".....M.	166	5	327	252	1,849	2,634	471	447	972	1,088	42	8,253
F.	23	—	15	18	202	283	52	33	85	122	1	834
Totals, 1964.....	513	22	898	673	4,946	7,388	1,393	1,177	2,476	3,182	76	22,744
1965												
16 - 17 years.....M.	156	26	277	175	1,574	2,344	414	257	622	985	19	6,849
F.	4	1	15	18	161	185	49	21	18	76	—	548
18 - 19 ".....M.	100	32	222	162	1,093	2,104	333	244	559	670	20	5,539
F.	14	—	12	8	88	181	51	26	63	69	2	514
20 - 24 ".....M.	158	28	315	239	1,868	2,638	471	380	874	1,095	40	8,110
F.	20	2	14	9	222	261	61	27	78	137	1	832
Totals, 1965.....	452	89	859	611	5,006	7,713	1,379	955	2,214	3,032	82	22,392

11.—Young Adult Offenders Convicted of Indictable Offences, by Class of Offence and Sex, 1964 and 1965

Class of Offence	1964		1965	
	Males	Females	Males	Females
Criminal Code	No.	No.	No.	No.
Class I.—Offences against the Person.....	2,465	69	2,583	94
Abduction and kidnapping.....	31	1	31	1
Assault, causing bodily harm, common, on police and obstruction.....	1,812	49	1,938	69
Offences against females ¹	295	3	300	2
Causing death by criminal negligence, ² manslaughter and murder.....	49	—	57	3
Attempted murder, causing bodily harm and danger.....	49	6	48	8
Criminal negligence in operation of motor vehicle.....	18	—	14	—
Duties tending to preservation of life.....	1	—	—	—
Other offences against the person.....	210	10	195	11
Class II.—Offences against Property with Violence.....	5,947	118	5,605	108
Breaking and entering a place, extortion and robbery.....	5,947	118	5,605	108
Class III.—Offences against Property without Violence...	10,367	1,194	9,913	1,387
Fraud and false pretences.....	563	106	611	116
Having in possession.....	1,184	48	1,162	63
Theft.....	8,620	1,040	8,140	1,208
Class IV.—Malicious Offences against Property.....	603	21	634	17
Arson and other fires.....	43	4	38	4
Other interference with property.....	560	17	596	13

For footnotes, see end of table.

11.—Young Adult Offenders Convicted of Indictable Offences, by Class of Offence and Sex, 1964 and 1965—concluded

Class of Offence	1964		1965	
	Males	Females	Males	Females
	No.	No.	No.	No.
Criminal Code—concluded				
Class V.—Forgery and Other Offences Relating to Currency	450	78	433	91
Forgery and uttering forged documents	433	78	411	85
Offences relating to currency	17	—	22	6
Class VI.—Other Offences	1,179	157	1,256	142
Driving while ability to drive is impaired	39	—	21	—
Driving while intoxicated	—	—	4	—
Gaming, betting and lotteries	33	1	27	3
Keeping bawdy houses	5	92	8	68
Various other offences	1,102	64	1,196	71
Totals, Criminal Code	21,011	1,637	20,424	1,839
Federal Statutes				
Narcotic Control Act	42	42	69	54
Other statutes	11	1	5	1
Totals, Federal Statutes	53	43	74	55
Grand Totals	21,064	1,680	20,498	1,894

¹ Includes abortion, indecent assault on female, sexual intercourse and attempt, incest, procuring, rape, attempted rape and seduction.

² Includes causing death in the operation of a motor vehicle or otherwise.

12.—Disposition of Sentences for Indictable Offences, by Sex, 1964 and 1965

Disposition of Sentences	1964				1965			
	16-24 Years		25 Years or Over		16-24 Years		25 Years or Over	
	M.	F.	M.	F.	M.	F.	M.	F.
	No.	No.	No.	No.	No.	No.	No.	No.
Suspended sentence	2,195	338	1,830	540	1,839	280	1,650	549
Probation	5,787	491	1,253	296	5,920	647	1,375	351
Fine	3,918	444	4,608	1,154	4,183	572	4,766	1,524
Gaol	6,398	310	6,735	414	5,913	299	6,458	427
Reformatory	1,417	71	546	38	1,330	69	460	42
Penitentiary	1,348	26	1,887	48	1,304	27	1,775	53
Death	1	—	4	—	9	—	10	—

Subsection 3.—Convictions for Summary Conviction Offences

Offences punishable on summary conviction are triable by magistrates and justices of the peace under Part XXIV of the Criminal Code (SC 1953-54, c. 51) or under the provincial summary conviction Acts as the case may be. Data relating to these offences are based on convictions; no information is available on either the number of persons involved in these offences or the number of charges. In these cases, following arrest or summons to appear in court, the accused person must be tried by a magistrate or justice of the peace without the intervention of a jury. Such cases are heard in police court with a minimum of delay.

13.—Convictions for Summary Conviction Offences, by Type, 1964 and 1965

Type of Offence	1964	1965	Type of Offence	1964	1965
No.	No.	No.	No.	No.	No.
Criminal Code	95,246	100,538	Federal Statutes—concluded		
Attempts, conspiracies, accessories, counselling.....	181	202	Food and Drugs.....	152	121
Attempt to commit suicide.....	298	383	Harbour Board and Merchant Seamen's.....	15,996	14,086
Bawdy house.....	468	392	Immigration.....	125	138
Causing disturbance by being drunk.....	2,715	3,661	Income Tax.....	7,152	6,170
Common assault.....	8,404	8,762	Indian—		
Communicating venereal disease.....	9	18	Intoxication.....	3,519	3,880
Contempt of court.....	30	26	Other.....	1,868	1,896
Corrupting morals.....	425	417	Juvenile Delinquents—		
Cruelty to animals.....	104	94	Adults who contribute to delinquency.....	1,722	1,733
Damage not exceeding \$50 and other interference with property.....	4,137	4,206	Incorrigibility.....	1,090	1,211
Disorderly conduct.....	15,842	17,028	Inducing child to leave home, etc.....	16	75
Duty of persons to provide necessities.....	1,966	2,164	Sexual immorality.....	611	328
Duty to safeguard dangerous places.....	37	34	Lord's Day.....	214	205
Fraudulently obtaining food or lodging.....	1,003	1,017	National Defence.....	97	101
Fraudulently obtaining transportation.....	149	173	Railway.....	1,053	837
Gaming, betting, lotteries.....	2,131	2,273	Unemployment Insurance.....	4,330	4,817
Intimidation.....	707	514	Weights and Measures.....	146	70
Killing or injuring bird or animal other than cattle.....	34	62	Other federal statutes.....	4,508	3,865
Motor Vehicle—			Provincial Statutes	1,161,982	1,245,797
Criminal negligence in operation.....	1,068	499	Children of Unmarried Parents.....	680	757
Dangerous driving.....	2,101	2,616	Deserted Wives and Children's Maintenance.....	7,270	8,077
Dangerous operation of vessel, etc.....	163	128	Game and Fisheries.....	6,950	6,297
Driving while impaired.....	25,966	27,656	Highway Traffic—		
Driving while disqualified.....	6,265	6,480	Driving without care.....	48,913	55,034
Driving while intoxicated.....	1,431	1,523	Other traffic.....	862,868	923,533
Failing to stop at scene of accident.....	5,217	5,575	Liquor Control—		
Motor vehicle equipped with smoke screen.....	44	13	Intoxication.....	111,622	123,113
Taking motor vehicle without consent.....	1,837	1,746	Other.....	87,078	96,844
Offensive weapons.....	1,134	1,178	Master and Servant.....	1,208	1,124
Personating peace officer.....	116	100	Medical, Dentistry and Pharmacy.....	201	124
Recognizance, breach of.....	1,914	1,743	Mental Diseases.....	853	434
Vagrancy.....	5,483	5,740	Prairie and Forest Fire Prevention.....	137	145
Other Criminal Code.....	3,867	4,115	Protection of Children.....	2,186	2,535
Federal Statutes	45,073	43,029	Public Health.....	582	440
Customs.....	304	183	School Laws.....	260	268
Excise.....	1,609	2,320	Other provincial statutes.....	31,174	27,072
Fisheries.....	561	993	Municipal By-laws	331,631	336,835
			Intoxication.....	16,983	16,107
			Traffic.....	261,611	275,187
			Other.....	53,037	45,541
			Prohibited Parking	2,219,532	2,265,458
			Totals, Convictions	3,853,464	3,991,657

Subsection 4.—Appeals

Appeal is an important safeguard in Canada's legal system and the conviction of a judge and jury or a judge may be appealed on the grounds that the verdict was unreasonable, that there was a wrong decision on some question of law or that there was a miscarriage of justice. In 1965 there were 3,097 appeals in indictable cases disposed of by the courts, of which 126 were Crown appeals and 2,971 appeals of the accused. Of the Crown appeals, 41 were from acquittal and 85 from sentence; of the appeals of the accused, 1,220 were from conviction and 1,751 from sentence. Appeals in summary conviction cases disposed of by the courts numbered 1,774 in 1965. Of these, 157 were appeals of the informant and 1,617 appeals of the accused. The informant appeals comprised 138 from acquittal and 19 from sentence and appeals of the accused comprised 1,413 from conviction and 204 from sentence.

Section 3.—Juvenile Delinquents

Juvenile Delinquent, as defined in the Juvenile Delinquents Act, means any child who violates any provision of the Criminal Code or of any federal or provincial statute, or of any by-law or ordinance of any municipality, or who is guilty of sexual immorality or any similar form of vice, or who is liable by reason of any other act to be committed to an industrial school or juvenile reformatory under the provision of any federal or provincial statute. The commission by a child of any of these acts constitutes an offence known as a delinquency.

The upper age limit of children brought before the juvenile courts in the provinces varies. The Act defines a child as meaning any boy or girl apparently or actually under the age of 16 years, or such other age as may be directed in any province. In Prince Edward Island, Nova Scotia, New Brunswick, Ontario and Saskatchewan under 16 is the official age; in Alberta under 16 for boys and under 18 for girls; in Newfoundland under 17; in Quebec, Manitoba and British Columbia under 18 years. In the interests of uniformity, it has been the practice of the Dominion Bureau of Statistics to publish information about juvenile delinquents 16 years of age or over in the annual report on *Statistics of Criminal and Other Offences* and to publish data relating to those under 16 years of age in a report entitled *Juvenile Delinquents*. In 1965, 3,437 juveniles 16 and 17 years of age were found delinquent in those provinces where the upper age limit is under 17 or under 18 years of age.

Included in the statistics of juvenile delinquents are cases (alleged as well as adjudged) which were brought before the courts and dealt with formally. A case was counted separately each time a child appeared before the court for a new delinquency or delinquencies. In instances where multiple delinquencies were dealt with at one court appearance, only one delinquency—the most serious—was selected for tabulation. Delinquencies reported as informal cases by the courts were not included nor were cases of children presenting conduct problems which were not brought to court or which were dealt with by the police, social agencies, schools or youth-serving agencies. Thus, community facilities for dealing with children's problems may have an influence on the number of cases referred to court and, therefore, an effect on the statistics of juvenile delinquents.

14.—Juveniles brought before the Courts, by Province, and Total Dismissed and Delinquent, 1961-1965

Province or Territory	1961	1962	1963	1964	1965	Percentage Change, 1964-65
	No.	No.	No.	No.	No.	
Newfoundland.....	413	494	523	556	638	+14.7
Prince Edward Island.....	52	60	66	32	50	+56.3
Nova Scotia.....	637	941	928	883	950	+ 7.6
New Brunswick.....	511	450	472	573	464	-19.0
Quebec.....	3,101	3,078	2,909	2,998	3,253	+ 8.5
Ontario.....	7,682	8,815	9,813	10,422	10,064	- 3.4
Manitoba.....	963	1,014	909	876	1,070	+ 9.6
Saskatchewan.....	329	379	339	332	295	-11.1
Alberta.....	1,307	1,269	1,357	1,718	1,557	- 9.4
British Columbia.....	1,949	2,157	2,570	2,640	2,634	-10.4
Yukon Territory.....	2	50	—	—	—	—
Northwest Territories.....	—	—	—	30	—	...
Canada.....	16,976	18,707	19,886	21,460	20,975	- 2.3
Dismissed.....	570	843	776	612	527	-13.9
Adjourned <i>sine die</i>	1,191	1,256	1,554	1,483	2,096	+41.3
Delinquent.....	15,215	16,608	17,556	19,365	18,352	- 5.2

**18.—Juvenile Delinquents, by Group of Offense, and Ratio per 100,000 Population
7-15 Years of Age, 1956-65**

Year	Delinquencies against the Person		Delinquencies against Property with Violence		Delinquencies against Property without Violence		Wilful and Forbidden Acts in respect of Certain Property		Forgery and Delinquencies relating to Currency		Other Delinquencies		Total Convictions	
	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population
1956...	250	9	1,888	69	3,572	131	839	31	39	1	2,397	88	8,985	329
1957...	254	9	2,005	70	3,764	131	994	35	28	1	2,634	92	9,679	338
1958...	346	12	2,268	76	4,436	148	985	35	36	1	3,320	111	11,391	381
1959...	265	9	2,408	78	4,748	153	952	31	27	-	3,286	106	11,686	377
1960...	369	11	2,953	92	5,694	177	1,272	40	36	1	3,641	113	13,965	434
1961...	382	11	3,511	103	6,435	189	1,248	37	33	1	3,606	106	15,215	447
1962...	460	13	3,563	102	7,129	204	1,420	41	49	1	3,987	114	16,608	475
1963...	490	14	3,864	108	7,386	206	1,630	45	48	1	4,138	115	17,566	489
1964...	525	14	4,361	119	8,364	229	1,654	45	51	1	4,410	120	19,356	528
1965...	539	14	4,130	111	7,722	207	1,490	40	93	2	4,378	117	18,352	492

19.—Juvenile Delinquents classified by Type of Delinquency, 1961-65

Delinquency	1961	1962	1963	1964	1965
	No.	No.	No.	No.	No.
Manslaughter and murder and causing death by criminal negligence.....	4	7	6	1	4
Murder, attempt.....	1	2	1	2	1
Rape and attempt, sexual intercourse and incest.....	5	12	6	4	12
Indecent assault (male and female).....	70	127	101	134	114
Assault, causing bodily harm and danger.....	36	43	62	60	58
Common assault.....	223	209	280	278	307
Interfering with transportation facilities.....	3	—	—	5	2
Other offences against the person.....	40	60	34	41	41
Breaking and entering a place.....	3,415	3,427	3,817	4,246	4,037
Robbery and extortion.....	96	136	47	115	93
Theft and having in possession.....	6,076	6,787	7,100	8,004	7,669
False pretences and fraud and corruption.....	35	34	50	54	53
Arson.....	74	94	80	106	119
Other interference with property.....	1,174	1,326	1,550	1,548	1,371
Forgery and delinquencies relating to currency.....	33	49	48	51	93
Incorrigibility and vagrancy.....	842	652	1,057	789	844
Immorality.....	238	223	176	186	201
Various other delinquencies.....	2,850	3,420	3,141	3,741	3,333
Totals.....	15,215	16,608	17,556	19,365	18,352

20.—Percentages of Delinquent Boys and Girls, by Age Group, 1964 and 1965

Age Group	1964			1965		
	Boys	Girls	Both Sexes	Boys	Girls	Both Sexes
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
7-12 years.....	24.6	14.4	23.6	24.3	12.0	22.7
13-15 ".....	74.7	84.5	75.7	75.6	87.8	77.2
Not given.....	0.7	1.1	0.7	0.1	0.2	0.1
Totals.....	100.0	100.0	100.0	100.0	100.0	100.0

21.—Age, Sex and School Grade of Delinquent Boys and Girls, 1965

(B=Boys; G=Girls)

Age	School Grades																Total Delinquents	
	Elementary										Secondary		Auxiliary		Not Given			
	1-4		5		6		7		8									
	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
7 years.....	40	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40	1
8 ".....	153	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	153	10
9 ".....	345	17	21	—	4	—	1	—	—	—	—	—	2	—	1	—	374	17
10 ".....	408	24	220	13	33	3	4	—	9	—	—	—	1	—	6	3	681	43
11 ".....	335	24	375	28	231	18	45	9	1	—	—	—	10	1	—	—	1,004	81
12 ".....	188	9	377	26	584	51	389	35	56	16	5	1	15	1	10	—	1,624	139
13 ".....	117	15	249	28	662	93	810	123	570	116	62	19	25	4	11	1	2,506	399
14 ".....	74	10	157	18	414	73	1,144	188	1,264	240	889	211	59	11	37	4	4,038	755
15 ".....	51	11	98	13	276	32	675	117	1,840	338	2,429	434	76	19	52	9	5,497	973
Not given.....	—	—	1	1	—	—	—	—	—	—	1	2	—	—	11	1	13	4
Totals.....	1,711	121	1,498	127	2,204	270	3,068	472	3,740	711	3,386	667	188	36	135	18	15,930	2,422

22.—Disposition of Delinquents, by Type of Sentence, 1956-65

Year	Reprimanded		Probation of Court		Protection of Parents		Fined or Made Restitution		Detained Indefinitely		Sent to Training School		Final Disposition Suspended		Corporal Punishment		Mental Hospital	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
1956.....	359	4.0	3,155	35.1	404	4.5	2,015	22.4	30	0.3	1,440	16.0	1,577	17.6	—	—	5	0.1
1957.....	460	4.7	3,822	39.5	300	3.1	2,261	23.4	63	0.7	1,563	16.1	1,202	12.4	1	—	7	0.1
1958.....	504	4.4	5,728	50.3	294	2.6	1,624	14.3	13	0.1	1,822	16.0	1,389	12.2	3	—	14	0.1
1959.....	236	2.0	6,151	52.6	412	3.5	1,810	15.5	9	0.1	1,678	14.4	1,381	11.8	—	—	9	0.1
1960.....	442	3.2	7,413	53.1	518	3.7	2,289	16.4	42	0.3	1,791	12.8	1,456	10.4	—	—	14	0.1
1961.....	544	3.6	7,341	48.2	644	4.2	2,148	14.1	89	0.6	1,974	13.0	2,466	16.2	—	—	9	0.1
1962.....	697	4.2	8,827	53.1	369	2.2	2,219	13.4	89	0.5	1,862	11.2	2,533	15.3	—	—	12	0.1
1963.....	977	5.6	8,292	47.2	462	2.6	2,460	14.0	99	0.6	2,043	11.6	3,180	18.1	—	—	43	0.3
1964.....	1,062	5.5	9,624	49.7	612	3.2	2,247	11.6	139	0.7	1,967	10.1	3,699	19.1	—	—	15	0.1
1965.....	773	4.2	10,021	54.6	550	3.0	2,133	11.6	80	0.4	1,925	10.5	2,845	15.5	—	—	25	0.1

Section 4.—Correctional Institutions and Training Schools**Subsection 1.—Statistics of Correctional Institutions and Training Schools**

Correctional institutions may be classified under four headings: (1) Penitentiaries—operated for adult offenders by the Federal Government in which, generally speaking, sentences of over two years are served; (2) Reformatories—operated for adult offenders by the provinces in which individual sentences of up to two years are served; (3) Common Gaols—operated for adult offenders by the provinces or counties in which sentences of up to two years can be served but in which, generally speaking, short-term sentences are served; and (4) Training Schools—operated by the provinces or private organizations under provincial charter for juvenile offenders serving indefinite terms up to the legal age for children in the particular province.

There is a limited amount of statistical information available with respect to these types of institution. "In custody" figures shown in Table 23 for penitentiaries refer only to those persons under sentence, but the figures for admissions include those received

from courts as well as by transfer from other penitentiaries and by cancellation of tickets-of-leave and paroles. Figures for releases include expiry of sentences, transfers between penitentiaries, releases on ticket-of-leave and parole, deaths, pardons and releases on court order. In-custody figures for provincial and county institutions may include, in addition to those serving sentences, persons awaiting trial, on remand for sentence or psychiatric examination, awaiting appeal or deportation, any others not serving sentence and, for training school population, juveniles on placement.

Population figures in Tables 23 and 24 are for a given day of the year, which is Mar. 31 except for Quebec gaols where populations are counted as of Dec. 31. These figures represent, in effect, a yearly census of correctional institutions and, as such, are not indicative of the daily average population count. For instance, if an abnormal number of commitments is made to a certain institution on or just prior to Mar. 31, the result will be an unrepresentative population total for the institution in that year.

With regard to the fluctuations that might have occurred during the year between census days, the total population of correctional institutions has shown a general increase since Mar. 31, 1961; however, totals for each type of institution have recently shown a tendency to level off or decline slightly.

23.—Population in Penitentiaries, Years Ended Mar. 31, 1961-65

Item	1961	1962	1963	1964	1965
	No.	No.	No.	No.	No.
In custody at beginning of year.....	6,344	6,738	7,156	7,219	7,655 ¹
Received during year.....	4,973	5,541	6,539	6,439	5,852
Discharged during year.....	4,579	5,123	6,476	6,007	5,993
In custody at end of year.....	6,738	7,156	7,219	7,651	7,514

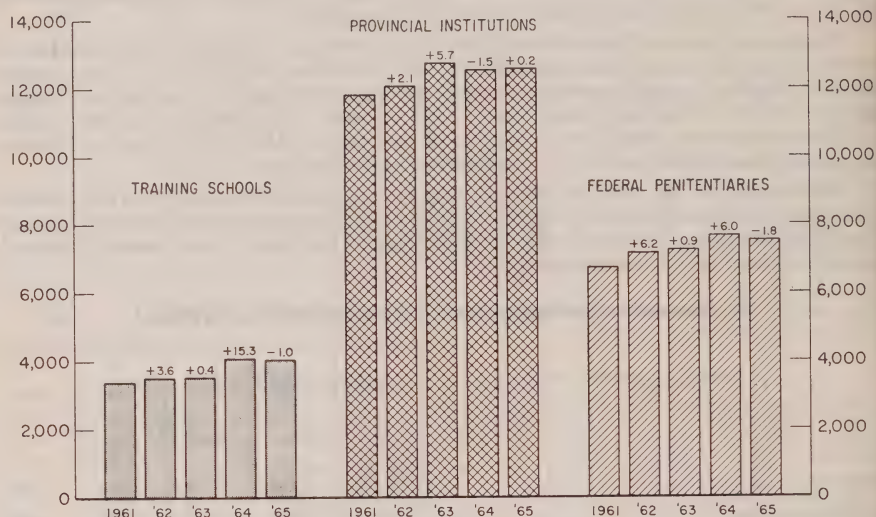
¹ Includes four females admitted to British Columbia penitentiary not counted in 1964.

24.—Populations in Reformatories and Gaols and in Training Schools, as at Mar. 31, 1961-65

Type of Institution	1961	1962	1963	1964	1965
	No.	No.	No.	No.	No.
Reformatories and Gaols—					
Reformatories for men.....	4,012	3,670	3,919	3,977	3,970
Reformatories for women.....	180	171	171	171	129
Common gaols.....	7,629	8,225	8,665	8,411	8,484
Totals, Reformatories and Gaols.....	11,821	12,066	12,755	12,559	12,583
Training Schools—					
Training schools for boys.....	2,382	2,435	2,466	2,662	2,706
Training schools for girls.....	1,019	1,080	1,072	1,416	1,332
Totals, Training Schools¹.....	3,401	3,525	3,538	4,078	4,038

¹ Eight additional training schools reported in 1964 and 1965 compared with previous years.

POPULATIONS IN CUSTODY IN TRAINING SCHOOLS, PROVINCIAL
ADULT INSTITUTIONS AND FEDERAL PENITENTIARIES
AS AT MAR. 31*, 1961-65, AND PERCENTAGE CHANGE



* POPULATIONS FOR QUEBEC GAOLS ARE EXPRESSED AS AT DEC. 31.

Subsection 2.—The Canadian Penitentiary Service*

The Penitentiary Service operates under the Penitentiary Act (SC 1960-61, c. 53) and is under the jurisdiction of the Solicitor General of Canada. It is responsible for all federal penitentiary institutions and for the care and training of persons sentenced or committed thereto. The Commissioner of Penitentiaries, under the direction of the Solicitor General, has control and management of the Service and all matters connected therewith. In the year ended Mar. 31, 1967, the federal penitentiary system consisted of six maximum security, six medium security and 15 minimum security institutions, all for males; one prison for women; one maximum security prison camp for males of the Freedomite Doukhobor Sect; one security institution for elderly recidivists; and three Correctional Staff Colleges.

The six maximum security institutions receive inmates sentenced by the courts to imprisonment for terms of from two years to life. These are located at New Westminster, B.C., Prince Albert, Sask., Stony Mountain, Man., Kingston, Ont., St. Vincent de Paul, Que., and Dorchester, N.B. Persons sentenced to penitentiary terms in Newfoundland are held in the provincially operated institution at St. John's, under financial arrangements authorized by Sect. 14 of the Penitentiary Act (SC 1960-61, c. 53).

The medium and minimum security institutions and the camps receive inmates transferred from the maximum security (receiving) institutions on the basis of their suitability for special forms of training, including vocational training. Of the medium security institutions, two—Collins Bay Penitentiary and the Joyceville Institution—are

* Prepared under the direction of A. J. MacLeod, Commissioner of Penitentiaries, Ottawa.

within a few miles of Kingston; the Federal Training Centre and the Leclerc Institution are close to St. Vincent de Paul; and the two other institutions are located at Matsqui, B.C., and Cowansville, Que.

Eight minimum security correctional camps are operated as extensions of a main institution in their respective areas. These are located at William Head and Agassiz, B.C.; Beaver Creek and Landry Crossing near Bracebridge and Petawawa, Ont.; Gatineau (Gatineau Park) and Valleyfield, Que.; Blue Mountain near Gagetown, N.B.; and Springhill, N.S. Six minimum security farm annexes operate as extensions of the penitentiaries at Dorchester, St. Vincent de Paul, Collins Bay, Joyceville, Stony Mountain and Prince Albert, respectively. There is also a minimum security industrial satellite at St. Vincent de Paul.

The Prison for Women at Kingston, Ont., receives inmates transferred upon committal to penitentiary in any part of Canada.

The special security Prison Camp for Freedomites who have been sentenced to imprisonment in penitentiary is located near Agassiz, B.C., and is called Mountain Prison. When the sentences of the female Doukhobor prisoners were completed, part of Mountain Prison was converted to an institution for older recidivists.

Five new institutions were in various stages of construction during 1966-67: one maximum security institution at Ste. Anne des Plaines, Que., medium security institutions at Springhill, N.S., Warkworth, Ont., and Drumheller, Alta., and a Special Correctional Unit at St. Vincent de Paul, Que.

Three Correctional Staff Colleges—one at Kingston, one at St. Vincent de Paul and one at New Westminster—are operated for the training of recruits and for the advanced training of penitentiary officers. The Kingston College serves English-speaking or bilingual officers, the St. Vincent de Paul College is primarily for French-speaking officers from all parts of Canada, and the Western Staff College trains the recruits for the institutions in the Western Region. These Staff Colleges provide excellent facilities for Service-wide conferences of institutional heads and other special groups of officers.

The Headquarters of the Service is located in Ottawa. Regional directorates have been established at New Westminster, B.C., Kingston, Ont., and St. Vincent de Paul, Que., for the Western, Ontario and Quebec areas, respectively.

Subsection 3.—The National¹ Parole System*

Parole is a means by which an inmate in any correctional institution in Canada, if he gives definite indication of his intention to reform, can be released from prison. The purpose of parole is the protection of society through the rehabilitation of the inmate. It is essential for the public to understand that the true purpose of punishment should be the reformation of the offender and not just vengeance or retribution but, since the Parole Board is as much concerned with the protection of society as with the reformation of the inmate, it recognizes that the welfare of an individual inmate must not be allowed to impair the success of the parole system or the public safety.

It is the function of the Parole Board to select those inmates who show some sincere intention to reform and to assist them in doing so by granting parole. The inmate then is allowed to serve the remainder of his sentence in society, but under supervision. He is subject to restrictions and conditions as to his conduct and behaviour, designed for his welfare and the protection of others. The Board is not a reviewing authority and is not concerned with the propriety of the conviction or the length of the sentence but only with the problem of deciding in each case whether or not there is chance of reformation. Parole is not a matter of clemency and is not granted on compassionate or humanitarian grounds but only if there appears to be at least a reasonable chance that the inmate will lead a law-abiding life. The treatment and training program in the institution is a vital part of the

* Prepared by T. G. Street, Chairman, National Parole Board, Ottawa.

correctional process and parole is an extension of this training outside the institution. It is not a matter of pampering prisoners but of trying to give as many of them as possible a chance to rehabilitate themselves.

The National Parole Board, composed of a chairman and four members (one woman), was formed in January 1959. It operates under the authority of the Parole Act (SC 1958, c. 38) which came into force on Feb. 15, 1959, replacing the Ticket-of-Leave Act. The Board has jurisdiction over any adult inmate of any prison in Canada convicted of an offence against an Act of the Parliament of Canada; it also has jurisdiction to revoke or suspend any sentence of whipping or any order made under the Criminal Code prohibiting any person from operating a motor vehicle.

The decision of the Board with respect to any one inmate is based on reports it receives from the police, from the trial judge or magistrate and from various people at the institution who deal with him. Reports are also obtained, when available, from a psychologist or psychiatrist and, if necessary, a community investigation is conducted to secure as much information as possible about his family and background, his work record and his position in the community. From these reports, an assessment is made to determine whether or not he has changed his attitude and is likely to lead a law-abiding life.

An inmate need not obtain the services of a lawyer to apply for parole. He may apply by sending a letter to the Board and is assisted in preparing such an application at the institution, or another person may apply on his behalf. The Board automatically reviews all sentences of over two years. As soon as an application is received, investigation is begun and the results presented to the Board for decision. All applications and reports are processed by the Parole Board staff at Ottawa but regional officers, of whom there are 55 stationed at 16 centres across the country, interview applicants for parole in their respective areas, giving them an opportunity of making verbal representations to a representative of the Board. The regional officers submit to the Board a report of each interview with an assessment of the inmate's suitability for parole.

A person on parole is under the care of a supervisor, usually an after-care agency worker or a probation officer, who reports to the regional officer. If he violates the conditions of his parole or commits a further offence or misbehaves in any manner, the Board may revoke his parole and return him to the institution to serve that part of his sentence outstanding at the time his parole was granted. If a parolee commits an indictable offence, his parole is automatically forfeited and he is returned to the institution to serve the unexpired balance of his sentence plus any new term to which he is sentenced for the commission of the new offence. The regional officer may also issue a Warrant of Suspension and have a parolee placed in custody if it is necessary to prevent a breach of any term or condition of the parole. These officers are thus able to exercise effective and adequate control over all parolees in their respective areas.

During the past eight years, the Board granted parole to 15,364 inmates. This figure includes 608 minimum paroles but does not include short paroles, temporary paroles or paroles for deportation; the inclusion of the latter three would bring the total to 17,166. Of the total, only 1,823 persons violated their parole and were returned to prison; 920 had their parole revoked and 906 forfeited their parole by committing another offence. On the other hand, during the eight-year period, 90 p.c. of those paroled successfully completed their parole period.

Section 5.—Police Forces and Crime Statistics

Organization of Police Forces.—The police forces of Canada are organized in three groups: (1) the federal force, which is the Royal Canadian Mounted Police; (2) provincial police forces—the Provinces of Ontario and Quebec have their own provincial police forces but all other provinces engage the services of the Royal Canadian Mounted Police to perform parallel functions within their borders; and (3) municipal police forces—most urban centres of reasonable size maintain their own police force or engage the services of the pro-

vincial police, under contract, to attend to police matters. In addition, the Canadian National Railways, the Canadian Pacific Railway Company and the National Harbours Board have their own police forces.

The Royal Canadian Mounted Police.—The Royal Canadian Mounted Police is a civil force maintained by the Federal Government. It was established in 1873 as the North-West Mounted Police for service in what was then the North-West Territories and, in recognition of its services, was granted the use of the prefix "Royal" by King Edward VII in 1904. Its sphere of operations was expanded in 1918 to include all of Canada west of Port Arthur and Fort William and in 1920 it absorbed the Dominion Police, its headquarters was transferred from Regina to Ottawa and its title was changed to Royal Canadian Mounted Police.

The Force is under the control of the Solicitor General of Canada and is headed by a Commissioner who holds the rank and status of a Deputy Minister. Officers are commissioned by the Crown and are selected from the non-commissioned ranks. The Force has complete jurisdiction in the enforcement of the federal statutes. By arrangement between the federal and provincial governments, it enforces the provincial statutes and the Criminal Code in all provinces exclusive of Ontario and Quebec and under special agreement it polices some 138 municipalities (as of Apr. 1, 1967). It is the sole police force in the Yukon and Northwest Territories, where it also performs various administrative duties on behalf of certain departments of the Federal Government. It maintains liaison officers in London and Washington and represents Canada in the International Criminal Police Organization, which has headquarters in Paris.

Of the Force's 18 divisions, 12 are actively engaged in the work of law enforcement, as are some 43 subdivisions and 662 detachments. The six remaining divisions are "Headquarters", "Depot", "N" and "P" which are maintained as training centres, and "Marine" and "Air", which support the operations of the land divisions. A teletype system links the widespread divisional headquarters with the administrative centre at Ottawa and a network of fixed and mobile radio units operates within the provinces. Focal point of the Force's criminal identification work is the Headquarters Identification Branch; its services, together with those of the divisional and subdivisional units and the four Crime Detection Laboratories, are available to police forces throughout Canada. The Force operates the Canadian Police College at which Force members and selected representatives of other Canadian and foreign police forces may study the latest advances in the fields of crime prevention and detection.

The uniform strength of the Force in April 1967 was 8,086, including marine constables and special constables, at which time it maintained some 2,258 motor vehicles, 21 aircraft, 56 ships and boats, 232 sleigh dogs, 33 police service dogs and 176 horses.

Quebec Provincial Police Force.—The Quebec Provincial Police Force is responsible for the maintenance of peace, order and public safety in the province, and for the prevention and investigation of criminal offences and of violation of all laws of the province.

The province is divided into two almost equal parts known as the Montreal Division and the Quebec Division. The Montreal Division has five subdivisions with headquarters at Granby, Hull, Montreal, Rouyn and Sherbrooke; the Quebec Division has four subdivisions with headquarters at Baie Comeau, Chicoutimi, Quebec and Rimouski. There are 112 detachments throughout the province—62 in the Montreal Division and 50 in the Quebec Division. The Force at the end of 1966 had 2,440 regular members—officers, non-commissioned officers and constables.

The Quebec Provincial Police Force is under the command of a Director General who is assisted by an officer holding the rank of Deputy Director General. Each Division is headed by an Assistant Director. A commissioned officer is in command of each subdivision.

Ontario Provincial Police Force.—The Ontario Provincial Police Force is the third largest deployed force on the North American Continent, having a total authorized strength of over 4,200 (1967); it enforces federal and provincial law in areas of Ontario

that do not maintain a police department and on all King's Highways. The Force is administered from General Headquarters at Toronto by a Commissioner who has the rank and status of a Deputy Minister under the Attorney General. Other senior executive officers include two Deputy Commissioners and five Assistant Commissioners. The Force has two principal sections—Operations and Services—which are administered under the supervision of the Deputy Commissioner, Operations and the Deputy Commissioner, Services, respectively. In turn, five divisions at the next level are administered by their respective Assistant Commissioners: Assistant Commissioner, Field; Assistant Commissioner, Traffic; Assistant Commissioner, Administration; Assistant Commissioner, Staff Services; and Assistant Commissioner, Special Services. Specialized branches under Special Services include Criminal Investigation, Liquor Law Enforcement, Precious Metals Theft, Anti-gambling, Anti-rackets, Auto Theft, and Intelligence Branches. Under Administration, the Central Records Branch offers a 24-hour, seven-day-week service to all police departments in Ontario on such matters as fingerprints records, criminal records, drycleaning and laundry mark identification, photographic service, stolen and recovered property lists.

In addition to policing those parts of Ontario that are without municipal police forces, the Ontario Provincial Police Force is responsible for providing specialized services to the municipal forces in the investigation of serious crime and, upon request, supplies sufficient manpower to ensure proper policing within the municipalities in emergency situations.

In the field, there are 209 detachments controlled through 17 district headquarters located at Chatham, London, Burlington, Niagara Falls, Downsview, Mount Forest, Barrie, Peterborough, Belleville, Perth, Long Sault, North Bay, Sudbury, Sault Ste. Marie, South Porcupine, Port Arthur and Kenora. Twenty municipalities are policed under special contract.

The Force operates one of the largest frequency-modulation radio networks in the world, with 84 fixed radio stations and more than 1,100 radio-equipped mobile units, including motorcycles, marine units and aircraft. The Force also operates an inter-provincial telecommunications network connecting all 17 districts as well as other police departments on a local, national and international basis. Because of territorial peculiarities, the northern districts augment their normal transportation facilities by the use of snow vehicles, air boats, dog teams and a variety of rail transport facilities.

In addition to regular constable recruitment, the Force has a cadet program, making it possible for qualified young men to create for themselves a career in a long-established police force. A recent important development in the progress of this Crown Force occurred when legislative enactment provided that all ranking officers from inspector up to and including the Commissioner, receive the Queen's Commission in the same manner as the Armed Forces.

Municipal Police Forces.—Provincial legislation makes it mandatory for cities and towns to furnish adequate municipal policing for the maintenance of law and order in their communities. Also, all villages and townships or parts of townships that have a population density and a real property assessment sufficient to warrant maintenance of a police force, and have been so designated by Order in Council, are made responsible for the adequate policing of their municipalities.

Uniform Crime Reporting.—The present method of reporting police statistics (police administration, crime and traffic enforcement statistics), known as the Uniform Crime Reporting Program, was started on Jan. 1, 1962, and was developed by the Dominion Bureau of Statistics in co-operation with the Canadian Association of Chiefs of Police Committee on Uniform Crime Reporting. Previously, the definitions and methods for collecting police statistics were not uniform and the data could not be expressed with consistency on a national, provincial or local basis but, with the development of the Uniform Crime Reporting Program, meaningful statistical aggregates became possible. The police were supplied with a manual of instructions containing standard definitions for the reporting of police administration, crime and traffic enforcement statistics on specially designed statistical forms to be submitted to the DBS.

Police Personnel.—As shown in Table 25, police personnel in Canada numbered 40,368 at the end of 1966, including 34,069 sworn-in policemen, 5,823 other full-time employees serving as clerks, technicians, artisans, commissionaires, guards, special constables, etc., and 476 cadets. The ratio of police personnel per 1,000 population was 2.0 and the ratio of police was 1.7. Provincial ratios for police personnel ranged from 1.1 to 4.3 per 1,000 persons and for police only from 0.9 to 4.2. In 12 selected metropolitan areas there were 14,683 police personnel including 12,764 police and 1,919 cadets and other full-time employees. Total municipal police personnel numbered 23,408 made up of 22,154 in municipal forces, and 1,166 Royal Canadian Mounted Police and 88 provincial police under municipal contracts.

There were two policemen killed by criminal action in 1966 and nine policemen and one civilian employee lost their lives accidentally while on duty. Police transport facilities at the end of the year included 6,278 automobiles, 931 motorcycles, 614 other motor vehicles, 377 boats, 21 aircraft, 261 horses and 83 service dogs.

25.—Police Personnel, by Type of Force, 1965 and 1966

Force	1965				1966			
	Police	Cadets	Other Full-Time Employees	Total	Police	Cadets	Other Full-Time Employees	Total
	No.	No.	No.	No.	No.	No.	No.	No.
Royal Canadian Mounted Police—								
Actual strength.....	7,398	—	2,064	9,462	7,920	—	2,149	10,069
Authorized strength.....	7,518	—	2,157	9,675	8,116	—	2,238	10,354
Engagements.....	738	—	361	1,099	964	—	353	1,317
Retirements and other separations.....	432	—	256	688	413	—	276	689
Ontario Provincial Police—								
Actual strength.....	2,797	54	618	3,469	3,075	68	699	3,842
Authorized strength.....	2,797	54	658	3,509	3,141	68	744	3,953
Engagements.....	260	30	230	520	405	45	255	705
Retirements and other separations.....	153	22	120	295	125	31	174	330
Quebec Provincial Police—								
Actual strength.....	2,163	—	612	2,775	2,364	25	615	3,004
Authorized strength.....	2,311	—	612	2,923	2,511	25	615	3,151
Engagements.....	344	—	155	499	308	25	100	433
Retirements and other separations.....	133	—	96	229	106	—	96	202
Municipal Police (excl. RCMP and OPP contracts)—								
Actual strength.....	18,448	320	2,207	20,975	19,462	383	2,309	22,154
Authorized strength.....	18,927	331	2,185	21,443	20,182	374	2,411	22,967
Engagements.....	2,139	260	559	2,958	2,341	294	652	3,287
Retirements and other separations.....	1,229	258	443	1,930	1,371	222	546	2,139
Canadian National Railways Police—								
Actual strength.....	579	—	24	603	598	—	25	623
Authorized strength.....	586	—	24	610	601	—	25	626
Engagements.....	59	—	3	62	68	—	2	70
Retirements and other separations.....	50	—	1	51	49	—	1	50
Canadian Pacific Railway Company Police—								
Actual strength.....	525	—	26	551	539	—	26	565
Authorized strength.....	540	—	26	566	549	—	26	575
Engagements.....	84	—	4	88	89	—	6	95
Retirements and other separations.....	77	—	4	81	75	—	6	81
National Harbours Board Police—								
Actual strength.....	100	—	—	100	111	—	—	111
Authorized strength.....	103	—	—	103	114	—	—	114
Engagements.....	16	—	—	16	13	—	—	13
Retirements and other separations.....	13	—	—	13	3	—	—	3
Totals, All Forces—								
Actual strength.....	32,010	374	5,551	37,935	34,069	476	5,823	40,368
Authorized strength.....	32,782	385	5,662	38,829	35,214	467	6,059	41,740
Engagements.....	3,640	290	1,312	5,242	4,188	364	1,368	5,920
Retirements and other separations.....	2,987	280	920	3,287	2,142	253	1,099	3,494

26.—Police Personnel, by Sex and Type of Force, 1965 and 1966

(Actual strength)

Force	Police		Cadets		Other Full-Time Employees		Totals	
	M.	F.	M.	F.	M.	F.	M.	F.
	No.	No.	No.	No.	No.	No.	No.	No.
1965								
Royal Canadian Mounted Police.....	7,398	—	—	—	752	1,312	8,150	1,312
Ontario Provincial Police.....	2,797	—	54	—	298	320	3,149	320
Quebec Provincial Police.....	2,152	11	—	—	343	269	2,495	280
Municipal Police (excl. RCMP and OPP contracts).....	18,262	186	307	13	1,415	792	19,984	991
Canadian National Railways Police.....	574	5	—	—	10	14	584	19
Canadian Pacific Railway Company Police.....	525	—	—	—	12	14	537	14
National Harbours Board Police.....	100	—	—	—	—	—	100	—
1966								
Royal Canadian Mounted Police.....	7,920	—	—	—	756	1,393	8,676	1,393
Ontario Provincial Police.....	3,075	—	68	—	330	369	3,473	369
Quebec Provincial Police.....	2,353	11	25	—	347	268	2,725	279
Municipal Police (excl. RCMP and OPP contracts).....	19,281	181	372	11	1,439	870	21,092	1,062
Canadian National Railways Police.....	592	6	—	—	10	15	602	21
Canadian Pacific Railway Company Police.....	539	—	—	—	12	14	551	14
National Harbours Board Police.....	111	—	—	—	—	—	111	—

Crime Statistics.—Table 27 shows the number of crimes dealt with by the police in 1966, including offences under the Criminal Code, federal statutes, provincial statutes and municipal by-laws; offences cleared by charge and otherwise; and the number of adults and juveniles charged. Offences reported or known to the police but proved unfounded are not shown in the table but numbered 51,791, including 43,541 under Criminal Code classifications, 2,815 under federal statutes, 4,293 under provincial statutes and 1,142 under municipal by-laws, excepting traffic.

During 1966, the police reported 63,676 offences committed against the person, including 220 murders, 8,792 rape and other sexual offences, and 54,505 offences of wounding and other assaults (not indecent); all offences against the person resulted in the charging of 25,630 persons, 1,614 of them juveniles. During the year there were 419,892 cases of robbery, theft and other offences against property, resulting in 83,369 persons charged, 26,488 of them juvenile males and 2,745 juvenile females; 37,798 cases of fraud, false pretences, forgery, etc.; 2,166 of prostitution; 2,285 gaming and betting; 3,651 offensive weapons; and 173,341 other Criminal Code offences. In addition to the 34,569 federal statute offences reported, 1,184 were under the Narcotic Control Act and 241 under the controlled drug part of the Food and Drugs Act; these two classifications resulted in the charging of 809 persons.

Provincial and territorial fire marshals and commissioners reported 1,913 suspected or known incendiary offences, of which 268 were proved unfounded; 412 offences were reported cleared by charge, resulting in 313 adults and 187 juveniles being charged.

The number of motor vehicles stolen was 39,023 (an estimated 555 per 100,000 vehicles registered); 37,022 or 94.9 p.c. of these vehicles were recovered. Police were asked to locate 20,769 missing adults and 30,965 missing juveniles; 19,828 adults and 30,726 juveniles were found. The number of drownings reported by the police was 1,443.

27.—Crime Statistics, by Type of Offence, 1965 and 1966

Year and Offence	Actual Offences ¹	Offences Cleared		Persons Charged			
		By Charges	Other- wise	Adults		Juveniles	
				Male	Female	Male	Female
	No.	No.	No.	No.	No.	No.	No.
1965							
Criminal Code	628,418	161,757	73,141	120,460	12,803	34,284	3,308
Capital murder.....	179	118	35	100	5	7	1
Non-capital murder.....	64	58	3	43	11	4	1
Attempted murder.....	111	85	8	82	7	2	1
Manslaughter.....	34	31	3	26	6	4	—
Rape.....	641	308	116	400	—	23	1
Other sexual offences.....	6,802	2,801	993	2,386	23	344	36
Wounding.....	822	494	134	402	69	50	3
Assaults (not indecent).....	44,551	18,131	16,671	17,038	930	850	78
Robbery.....	5,576	1,662	255	1,901	125	349	20
Breaking and entering.....	96,530	18,328	4,401	12,592	303	8,375	204
Theft, motor vehicle.....	38,107	8,415	2,027	6,592	141	3,690	60
Theft over \$50.....	67,925	9,045	3,586	7,094	753	1,983	136
Theft \$50 or under.....	169,986	26,890	14,934	14,198	3,857	10,261	1,642
Have stolen goods.....	5,739	5,312	234	3,557	275	808	57
Fraud.....	32,401	18,678	3,564	8,324	984	269	60
Prostitution.....	1,864	1,705	25	459	1,274	5	25
Gaming and betting.....	2,156	1,865	89	2,462	137	6	—
Offensive weapons.....	3,275	2,500	386	2,140	82	223	3
Other Criminal Code ¹	151,655	45,331	25,677	40,664	3,821	7,031	980
Federal Statutes²	29,614	22,504	3,339	19,142	1,296	954	434
Narcotic Control Act.....	655	382	34	368	224	7	—
Food and Drugs Act.....	113	48	20	31	7	—	—
Provincial Statutes¹	271,857	250,157	9,588	231,438	18,975	7,175	1,651
Municipal By-laws¹	58,794	43,357	8,640	35,694	3,846	1,750	147
1966							
Criminal Code	702,809	175,570	89,074	128,895	13,954	35,636	4,083
Murder, capital and non-capital.....	220	181	26	158	26	17	—
Attempted murder.....	131	108	12	98	9	3	—
Manslaughter.....	28	24	—	18	9	1	—
Rape.....	652	348	126	463	—	23	—
Other sexual offences.....	8,140	3,171	1,280	2,591	35	386	38
Wounding.....	972	524	218	405	68	55	5
Assaults (not indecent).....	53,533	20,712	21,077	18,991	1,145	942	144
Robbery.....	5,710	1,852	354	2,082	78	437	19
Breaking and entering.....	102,132	19,223	5,290	12,777	261	8,654	350
Theft, motor vehicle.....	39,655	8,840	2,429	6,405	130	3,610	84
Theft over \$50.....	75,841	10,017	4,539	7,637	804	2,180	190
Theft \$50 or under.....	190,480	29,826	17,977	15,567	4,482	10,663	2,029
Have stolen goods.....	6,074	5,426	322	3,659	254	944	73
Fraud.....	37,798	19,840	4,185	8,983	1,143	311	64
Prostitution.....	2,166	1,975	24	425	1,556	16	24
Gaming and betting.....	2,285	1,942	90	2,788	165	4	—
Offensive weapons.....	3,651	2,739	448	2,262	78	257	7
Other Criminal Code ¹	173,341	48,822	30,677	43,586	3,711	7,133	1,056
Federal Statutes²	34,569	28,266	2,623	23,593	1,902	784	474
Narcotic Control Act.....	1,184	510	105	601	185	5	2
Food and Drugs Act.....	241	19	23	16	—	—	—
Provincial Statutes¹	290,096	264,902	10,114	236,517	19,196	7,317	1,813
Municipal By-laws¹	65,990	45,587	12,483	38,827	4,337	2,567	275

¹ Except traffic.² Except traffic, Narcotic Control Act and Food and Drugs Act.

During 1966, police departments in Canada reported 89,751 Criminal Code traffic offences, resulting in 59,430 persons charged, 1,319 of them females. Total charges reported under federal statutes numbered 9,698, provincial statutes 1,509,598 and municipal

by-laws 373,218, excluding parking violations; the latter numbered 4,277,830, most of them reported by municipal police. There are certain traffic offences under provincial statutes which are almost identical to those under the Criminal Code. These were first reported separately in 1966 and are shown at the foot of Table 28.

The number of traffic accidents reported was 638,073, of which 4,405 involved fatalities, 108,690 resulted in injuries, 336,056 involved property damage of over \$100 and 188,922 involved damage of \$100 or less. There were 5,274 persons killed in traffic accidents, including 3,721 drivers and passengers, 1,311 pedestrians, 201 cyclists and 41 others; persons injured numbered 158,106.

28.—Traffic Enforcement Statistics, by Type of Offence, 1965 and 1966

Year and Offence	Actual Offences	Offences Cleared		Persons Charged	
		By Charge	Other- wise	Male	Female
	No.	No.	No.	No.	No.
1965					
Criminal Code	84,726	58,497	3,860	54,942	1,188
Criminal Negligence—					
Causing death.....	197	190	—	187	5
Causing bodily harm.....	71	61	2	56	4
Operating motor vehicle.....	357	350	2	314	2
Failing to stop at scene of accident.....	33,360	9,396	3,424	7,758	292
Dangerous driving.....	5,016	4,245	161	4,048	60
Driving while intoxicated.....	3,701	3,614	39	3,530	69
Driving while impaired.....	33,878	32,707	200	31,823	685
Driving while disqualified.....	8,146	7,934	32	7,226	71
Federal Statutes (except parking).....	..	..	..	6,122	
Provincial Statutes (except parking).....	....	..	..	1,447,309	
Municipal By-laws (except parking).....	..	..	..	397,077	
1966					
Criminal Code	89,751	62,577	4,506	58,111	1,319
Criminal Negligence—					
Causing death.....	222	221	1	218	7
Causing bodily harm.....	72	63	6	61	5
Operating motor vehicle.....	370	337	18	318	5
Failing to stop at scene of accident.....	35,536	9,902	4,003	7,914	308
Dangerous driving.....	4,793	4,225	149	3,932	55
Driving while intoxicated.....	3,093	3,038	15	3,014	43
Driving while impaired.....	36,514	35,757	252	34,512	828
Driving while disqualified.....	9,151	9,034	62	8,142	68
Federal Statutes (except parking).....	..	..	..	9,698	
Provincial Statutes (except parking).....	..	..	..	1,509,598	
Municipal By-laws (except parking).....	..	..	..	373,218	
Provincial Statutes¹	46,404	38,951	1,225	37,063	1,780
Failing to stop at scene of accident.....	10,083	5,115	763	4,704	175
Dangerous driving.....	33,881	32,190	435	30,615	1,583
Driving while disqualified.....	2,440	1,646	27	1,744	22

¹ First reported in 1966; see text above.

CHAPTER X.—LAND USE AND RENEWABLE RESOURCE DEVELOPMENT*

CONSPECTUS

	PAGE		PAGE
SECTION 1. LAND RESOURCES.....	465	SECTION 3. INTERNATIONAL BOARDS AND COMMISSIONS.....	468
SECTION 2. FEDERAL AGENCIES CONCERNED WITH RESOURCE USE.....	465	SECTION 4. FEDERAL AND FEDERAL-PROVINCIAL RESOURCE DEVELOPMENT PROGRAMS	469

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Canada's era of settlement ended as the northern areas of the Prairie Provinces came under cultivation in the 1930s. Government policies, previously directed mainly toward the large-scale utilization of natural resources, have evolved toward concern with land use and the socio-economic circumstances of people involved in renewable resource-based industries. Undiscriminating land settlement policies and ill-advised individual choices had resulted in the settlement of some submarginal land throughout Canada, but most notably in the southern areas of Alberta and Saskatchewan, creating requirement for land-use adjustment even before settlement had been completed. Far more significant than this, however, is the technological revolution in agriculture which has occurred during the past three decades concurrently with improvements in transportation and a strong trend toward the concentration in urban centres of a growing population.

Accompanying these changes has been an altered pattern of land use resulting from individual response to economic factors; but the rate of such adjustment has not been concomitant to the magnitude of the socio-economic dislocation in rural areas. Because of this situation, and because of increased concern with forest management, water pollution control, recreational resources and wildlife management, the trend has been for a vast increase in public decision-making with respect to resource management and use. Implicit in this has been the need for improved legislative-administrative organization relative to natural resources.

Early federal investigations of significance to the general problem of organization for resource use were: the Senate of Canada Special Committee on Land Use, established in 1957 and continuing until 1963; the House of Commons Standing Committee on Mines, Forests and Waters; and the National Conference on Reconstruction held in 1945. Notable among several provincial government activities along similar lines is the annual British Columbia resources conference.

One of the most important responses to this need was the "Resources for Tomorrow" Conference held in 1961 to permit examination of problems of resource use and of developing an organizational framework suited to the modern requirement for integrated, comprehensive resource-use planning for social and economic development. Subsequent to this Conference, the Canadian Council of Resource Ministers, composed of one representative from each province and one from the Federal Government, was established to perform a similar function on a continuing basis, with the aid of a Montreal-based staff.

* Revised in the office of the Canadian Council of Resource Ministers, Montreal, Que.

One of the major specific concerns of the Council has been water resource management. Relevant activities have included a major conference on pollution, held in the autumn of 1966 for the purpose of formulating realistic guidelines to assist federal, provincial and municipal governments in developing programs to meet the challenge of pollution. An investigation was made by the Council of the administration of water resources in Canada; a report was published in 1965 and updated in 1968. A major workshop seminar on water is planned for the autumn of 1968.

In keeping with its general concern for optimal use of available resources, the Council has done investigative and liaison work to ensure that fundamental data are available to guide the allocation of resources to outdoor recreation and has prepared other documents that have assisted in developing liaison between and within governments. As part of its role in information gathering and exchange, the Council maintains liaison with international bodies concerned with natural resources, and participates in international programs such as the International Hydrological Decade and the International Biological Program.

Constitutionally, administration and disposition of natural resources rest mainly with the provincial governments. Under the British North America Act, fisheries were under federal jurisdiction and the federal and provincial governments shared legislative authority with respect to agriculture, international and interprovincial waters, etc., with federal legislation taking precedence over provincial legislation should conflict arise; however, subsequent interpretations of the Act have established most aspects of control of resources as being matters of provincial jurisdiction. As well, in the years following Confederation certain provinces, by agreement, assumed varying degrees of responsibility for administering the fisheries legislation and other federal resources legislation. Within this general framework, the Federal Government has taken certain steps to establish a national resources policy, to co-ordinate the activity of the various federal departments concerned with resources and relevant social and economic problems, to undertake or share in research, and to provide initiative and financial assistance in the establishment of programs of resource adjustment and development; and provincial governments have moved significantly to accommodate their administrative structures to the need for integrated, planned resource adjustment and development. Aspects of this trend to accommodate legislative-administrative organization to emerging needs will be apparent in the following descriptions of federal and federal-provincial agencies and programs. In addition, a great number of provincial programs have been instituted or strengthened, furthering the trend toward integration of activities relative to renewable natural resources.

Federal activity in resource conservation programs began before the turn of the century, starting in 1877. This included the work of the now long-disbanded Department of the Interior in the field of surveying and development of water resources in Western Canada. Later programs included those conducted under the Prairie Farm Rehabilitation Act which was enacted in 1935 to aid in the rehabilitation of drought-stricken areas of the prairies, the work on the eastern seaboard conducted under the Maritime Marshland Rehabilitation Act of 1948, water development projects under the terms of the Canada Water Conservation Assistance Act of 1953, the broad and comprehensive resource development and adjustment programs being undertaken under the terms of the Agricultural and Rural Development Act of 1966 (formerly Agricultural Rehabilitation and Development Act of 1961), and the Fund for Rural Economic Development Act, 1966, and projects under the Atlantic Development Board Act of 1962. There have been numerous programs under the International Boundary Waters Treaty Act of 1911 by the International Joint Commission established to fulfil the provisions of the treaty and the confirming Act. Over this period many projects of varying nature and scope have been undertaken under legislation such as the above and under the terms of reference of the federal and provincial government departments and agencies concerned with resource development—all toward the basic objective of achieving more effective utilization of Canada's land and water resources and the provision of a greater degree of economic stability and equitability for the rural areas of the country.

Section 1.—Land Resources

Information available regarding Canada's land resources is shown in Table 1, where the land area is classified as occupied agricultural, forest and "other" land, the last including urban land, road allowances, grass and brush land and all waste land such as open muskeg, swamp and rock. The Department of Forestry and Rural Development estimates that about 48 p.c. of the land area of Canada is forested and, according to the Census of 1966, less than 8 p.c. is classed as occupied farm land. A great part of the 1,599,542 sq. miles of "other" land is located in the Yukon and Northwest Territories which together have a land area of 1,458,784 sq. miles. The occupied farm land in these Territories is practically nil and the forest area is estimated at 275,800 sq. miles.

On the basis of information currently available, it is estimated that, in addition to the present arable land across the country, about 40,000,000 acres of virgin land can be used for arable crops if the need arises. However, most of these reserves will require clearing or other improvement measures before they can be used for agriculture. In addition to the present arable land and potentially arable land, 55,000,000 to 60,000,000 acres are suitable for wild pasture.

As the Canada Land Inventory progresses (see p. 471), a great deal of detailed information is becoming available on the land resources of the country, their present utilization and their capability.



Roundup on a Saskatchewan community pasture. In 1967 more than 7,000 farmers placed 160,000 cattle for summer grazing on community pastures operated by the Prairie Farm Rehabilitation Administration. The total area of the 87 pastures established on land submarginal for crop-raising is about 2,500,000 acres and about 500 riders are required for roundups.

1.—Land Area classified as Occupied Agricultural or Forest, by Province

NOTE.—Figures for occupied agricultural land were obtained from the 1966 Census; areas of forest land were compiled by the Department of Forestry and Rural Development from estimates supplied by the Forestry Service in each province.

Description	New-found-land	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Y.T. and N.W.T.	Canada
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
Occupied Agricultural Land—												
Improved—Crops and summer fallow.	20	627	495	677	8,149	13,419	17,754	67,053	38,073	1,676	2	147,945
Pasture.....	8	238	207	261	3,314	4,587	1,204	2,384	3,611	683	—	17,097
Other.....	4	25	57	60	458	750	489	1,008	935	163	1	3,950
Unimproved—Forest (woodland) ¹	21	437	1,694	1,522	5,902	4,429	1,895	2,106	2,905	1,250	1	22,162
Other.....	24	121	440	311	2,311	4,668	8,476	29,051	31,012	4,497	5	80,916
Totals, Occupied Agricultural Land	77	1,448	2,893	2,831	20,134	27,853	29,818	102,202	76,536	8,259	9	272,070
Forest Land—												
Softwood—												
Merchantable.....	24,422	78	7,270	6,297	75,687	44,109	14,669	10,573	14,483	80,330	35,200	313,118
Young growth.....	5,835	396	789	2,889	40,022	35,925	20,366	3,413	14,042	87,786	10,000	222,363
Mixedwood—	403	133	5,250	7,298	47,500	24,553	5,459	9,011	12,636	—	19,800	132,023
Merchantable.....	269	145	458	2,042	26,281	34,239	6,514	5,046	11,308	—	3,500	89,852
Young growth.....	9	13	841	1,939	14,391	6,559	3,403	9,205	5,255	3,945	4,700	50,260
Hardwood—	244	11	45	1,952	14,344	17,961	4,767	1,773	13,728	7,953	2,500	64,278
Merchantable.....	244	11	45	1,952	14,344	17,961	4,767	1,773	13,728	7,953	2,500	64,278
Young growth.....	2,680	37	427	2,470	1,500	1,191	3,011	3,122	45,120	28,397	—	87,955
Unclassified ²												
Totals, Productive Forest Land.....	33,862	813	15,080	23,887	220,625	164,567	58,189	42,143	116,572	208,411	75,700	959,849
Non-productive Forest Land³.....	53,930	122	1,194	442	157,500	97,175	64,631	75,595	41,023	59,227	200,100	750,939
Totals, Forest Land.....	87,792	935	16,274	24,329	378,125	261,742	122,820	117,738	157,595	267,638	275,800	1,710,788
Net Productive Land⁴.....	33,918	1,824	16,279	25,196	234,557	187,991	86,112	142,239	190,203	215,430	75,708	1,209,757
Other Land⁵.....	55,197	238	2,929	2,197	131,593	58,926	61,032	2,348	17,574	84,622	1,182,976	1,599,542
Totals, Land Area⁶.....	143,045	2,184	20,402	27,835	523,860	344,092	211,775	220,182	248,800	359,279	1,458,784	3,560,238

¹ Included in *Forest Land*; duplication eliminated in the item *Net Productive Land*.

² Includes areas of recent burn, cut-over or windfall not yet re-stocked. Areas incapable of producing crops of merchantable timber because of adverse climatic, soil or moisture conditions, and reserve forest lands for which no inventories are available.

³ Includes only occupied agricultural land (less forest, woodland) plus productive forest land.

⁴ Includes grass and brush land and all waste land such as open pasture, swamp and rock and also unclassified land.

⁵ *Net Productive Land* plus *Non-productive Forest Land* plus *Other Land*.

Section 2.—Federal Agencies Concerned With Resource Use

Numerous agencies of the Federal Government have a more or less direct concern with renewable resources. Functions vary from academic research to direct manipulation of resources in certain geographical areas. Direct action, however, is limited mainly to areas under federal jurisdiction—the Northwest Territories, Indian reservations, limited federal forest preserves, National Parks, certain international parks and waterways, certain aspects of fisheries, matters relative to public health, navigation, and certain aspects of agriculture. More usual by far than direct action by the Federal Government are federal-provincial agreements under which the Federal Government shares the costs of programs. Such aid is often conditional on the province agreeing to carry out the program in accordance with criteria established by the Federal Government. The capacity of the Federal Government to establish cost-sharing programs is inherent in its broad fiscal powers and in its research and data-gathering programs that provide a basis for broader assessment of issues and alternatives.

Federal agencies whose activities impinge fairly directly on renewable resource development and use are as follows:—

- CANADA DEPARTMENT OF AGRICULTURE—Research Branch, Economics Branch, Prairie Farm Rehabilitation Administration, and Information Division
- DEPARTMENT OF FISHERIES—Conservation and Protection Service, Resource Development Service, Information and Consumer Service, and Economics Service
- DEPARTMENT OF FORESTRY AND RURAL DEVELOPMENT—Directorate of Program Co-ordination, Information and Technical Services Division, Forest Products Research Laboratory, ARDA Administration, Maritime Marshlands Rehabilitation Administration, and Eastern Rockies Forest Conservation Board
- DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT—Council of the Northwest Territories, Natural and Historic Resources Branch (including the Canadian Wildlife Service), Northern Administration Branch, and Indian Affairs Branch
- DEPARTMENT OF PUBLIC WORKS—Harbours and Rivers Engineering Branch, Development Engineering Branch and Economics Studies Branch
- DEPARTMENT OF TRANSPORT—Marine Works Branch, Marine Hydraulics Branch, and Meteorological Branch
- DEPARTMENT OF NATIONAL HEALTH AND WELFARE—Occupational Health Division, and Public Health Engineering Division
- DEPARTMENT OF FINANCE—Economic Analysis and Government Finance Division, Resources and Development Division, and a Division concerned with Taxation, Federal-Provincial Relations and Pensions and Social Insurance
- DEPARTMENT OF VETERANS AFFAIRS—Veterans' Land Administration
- DEPARTMENT OF ENERGY, MINES AND RESOURCES—Four Departmental Sectors are concerned with mines and geosciences, mineral development, energy development, and water, including the Geological Survey of Canada, Surveys and Mapping Branch, Marine Sciences Branch, Inland Waters Branch, and Policy and Planning Branch
- NATIONAL RESEARCH COUNCIL OF CANADA
- NATIONAL ENERGY BOARD
- ECONOMIC COUNCIL OF CANADA
- ATLANTIC DEVELOPMENT BOARD.

Various Crown corporations, credit agencies, advisory committees and boards, and quasi-governmental organizations also have interests in the fields of resource development, including:—

- FARM CREDIT CORPORATION
- CANADIAN COMMITTEE ON FRESHWATER FISHERIES RESEARCH
- FISHERIES RESEARCH BOARD OF CANADA
- NORTHERN CANADA POWER COMMISSION
- ADVISORY COMMITTEE ON NORTHERN DEVELOPMENT
- ADVISORY COMMITTEE ON WATER USE POLICY
- CENTRAL MORTGAGE AND HOUSING CORPORATION
- NATIONAL HARBOURS BOARD
- ST. LAWRENCE SEAWAY AUTHORITY
- ATLANTIC DEVELOPMENT BOARD
- NORTHERN TRANSPORTATION COMPANY

INTERDEPARTMENTAL ADVISORY COMMITTEE ON FORESTRY STATISTICS
 INTERDEPARTMENTAL CO-ORDINATING COMMITTEE FOR ARDA
 CANADIAN COUNCIL ON RURAL DEVELOPMENT
 INTERDEPARTMENTAL COMMITTEE ON RESOURCES
 NATIONAL COMMITTEE FOR THE INTERNATIONAL HYDROLOGIC DECADE.

The Dominion Bureau of Statistics has, of course, functions relevant to nearly all aspects of the national life, including resources. The above agencies are not identified with a particular department and function more or less autonomously but are usually associated with a Minister of the Crown for purposes of reporting to Parliament (see pp. 140-142). Although each of these agencies carries out programs bearing on the use and development of natural resources, direct unilateral action is unusual except relative to lands and waters under the jurisdiction of the Federal Government. Major exceptions are the Prairie Farm Rehabilitation Administration programs and significant federal programs for the conservation and development of the various fisheries resources.

Major items of federal legislation relative to renewable resources include:—

The Department of Agriculture Act
 The Prairie Farm Rehabilitation Act
 The Farm Credit Act
 The Department of Fisheries Act
 The Forestry Development and Research Act
 The Agricultural and Rural Development Act
 The Fund for Rural Economic Development Act
 The National Parks Act
 The Migratory Birds Convention Act
 The International River Improvements Act
 The Dominion Water Power Act
 The Canada Water Conservation Assistance Act
 The Atlantic Provinces Power Development Act
 The Navigable Waters Protection Act
 The Veterans' Land Act
 The Economic Council of Canada Act
 The National Energy Board Act
 The National Harbours Board Act
 The St. Lawrence Seaway Authority Act
 The Resources and Technical Surveys Act.

Section 3.—International Boards and Commissions

The continental context of Canadian resource management is implicit in the purposes of the various international boards and commissions in which Canada participates. Of the 35 or more, some 25 are concerned with water; most of the remainder have to do with fisheries.

THE INTERNATIONAL JOINT COMMISSION was established to fulfil the provisions of the International Boundary Waters Treaty of 1909 between the United States, Great Britain and Canada. Three commissioners were appointed by the President of the United States and three by the Government of Canada. The Commission deals with the use, obstruction and diversion of boundary waters and rivers crossing the International Boundary. It conducts investigations on water use problems with international implications and reports its findings with recommendations to both governments.

International boards of control which report to the International Joint Commission are: a ten-member International St. Lawrence Board of Control, concerned with levels of Lake Ontario and the regulation of outflow from the lake; a two-member St. Croix Board, concerned with water levels and supervision of dam construction; the Lake of the Woods Board, the Lake Superior Board, the Rainy Lake Board and the Kootenay Board, all of which are concerned with water levels; a two-member Columbia River Board, concerned with the effects of the Grand Coulee dam; a four-member Souris River Board, concerned with allocation of water; and a five-member Niagara Board, concerned with levels of

Grass Island Pool and the Lake Erie ice boom. Functions similar to those of the Boards are carried out by two accredited officers relative to measurement and apportionment of waters of the St. Mary and Milk Rivers. Also reporting to the International Joint Commission are five international engineering boards for the St. John, St. Croix, Souris and Red, Pembina and Columbia Rivers. A seven-member Technical Advisory Board on Air Pollution is concerned with air pollution by ships plying the Detroit River. An Advisory Board on Control of Pollution of Boundary Waters, reporting to the International Joint Commission, is concerned with the connecting channels of the Great Lakes, and other boards concerned with pollution are: the Advisory Board on Pollution Control-St. Croix River, the International Red River Pollution Board, the International Lake Erie Water Pollution Board and the International Lake Ontario-St. Lawrence Water Pollution Board. The eight-member International Great Lakes Levels Board is concerned with investigation and study of water levels of international or boundary waters, reporting to the International Joint Commission.

THE INTERNATIONAL NORTH PACIFIC FISHERIES COMMISSION, composed of four members each from Canada, the United States and Japan, operates to fulfil the terms of the International Convention for the High Seas Fisheries of the North Pacific Ocean, the objective of which is to achieve maximum sustained yield in non-territorial waters by co-ordination of the studies necessary to determine appropriate application of treaty principles. THE GREAT LAKES FISHERIES COMMISSION, composed of two national sections of three members each, formulates and co-ordinates research programs and recommends programs for the eradication or control of sea lamprey populations. Responsibility for Canada's treaty obligations is shared by arrangement between the Federal Government and the Government of Ontario. THE NORTHWEST ATLANTIC FISHERIES COMMISSION operates under the International Convention for the Northwest Atlantic Fisheries signed by Canada, the United States, the United Kingdom, France, Spain, Denmark, Portugal, Iceland, Norway, Italy, East Germany and the U.S.S.R. All contracting governments are represented on the Commission and panels have been established with jurisdiction over defined areas of particular interest to some signatories. The Commission has no regulatory powers but conducts scientific investigations and recommends measures to maintain stocks of fish. THE NORTH PACIFIC FUR SEALS COMMISSION operates under the Interim Convention on Conservation of North Pacific Fur Seals signed by Canada, the United States, Japan and the U.S.S.R., undertaking research, recommending enforcement measures required to eliminate pelagic sealing on the high seas, and overseeing the apportionment of skins from the Pribilof, Commander and Robben Islands. THE INTERNATIONAL WHALING COMMISSION, composed of representatives of Australia, Brazil, Argentina, France, South Africa, the United States, the United Kingdom, Canada, Norway, New Zealand, Iceland, Japan, Panama, Mexico and Denmark, has power to amend whaling rules and regulations of the International Convention, and to recommend new regulations with respect to the conservation and use of the resource. THE ROOSEVELT-CAMPOBELLO INTERNATIONAL PARK COMMISSION is concerned with the administration and development of the Campobello Island estate of the late Franklin D. Roosevelt as an international park.

Section 4.—Federal and Federal-Provincial Resource Development Programs

Water Development

Since 1935, the Prairie Farm Rehabilitation Administration (PFRA) has provided engineering and financial assistance in respect of some 91,000 small dams and dugouts (small artificial ponds for water collection) to supply water for livestock, irrigation and domestic use. In the main, such works serve individual farmers but some serve groups of farmers or communities. At the request of the provincial or local governments, the PFRA will provide free engineering service for the investigation of potential water development projects.

Six minor irrigation projects in Saskatchewan provide water for 125,000 acres of land. Major irrigation projects include the St. Mary Irrigation Project, jointly undertaken by the Federal Government and the Government of Alberta in 1946. The St. Mary Dam, completed in 1951, impounds water from the Belly and Waterton Rivers, providing sufficient water to irrigate approximately half a million acres. The South Saskatchewan River Development Project, completed in the late summer of 1967, involved building of a main dam 210 feet high and 16,700 feet long—the largest rolled earth dam in Canada and one of the largest in the world. Located between the towns of Outlook and Elbow, this dam will create a reservoir 140 miles long with a capacity, when filled, of 8,000,000 acre feet of water (usable storage of 2,700,000 acre feet). The project will provide water to irrigate 500,000 acres of land, the power potential is 475,000 kilowatts, and the artificial lake will have considerable recreational potential. A second, smaller dam adjacent to the height of land between the South Saskatchewan and Qu'Appelle Rivers will divert water into the Qu'Appelle-Assiniboine system to provide much-needed water supplies for irrigation and the considerable urban areas of the watershed. The cost of developing the main reservoir was \$117,000,000, of which the provincial government contributed \$25,000,000.

Land reclamation projects have been carried out by the PFRA in Manitoba along the Saskatchewan and Pasquia Rivers near The Pas, the Assiniboine River between Portage la Prairie and Headingly, at various points in the Interlake Region, and along the Northwest Escarpment. The Assiniboine River project includes creation of a large reservoir near Shellmouth and construction of a diversion canal near Portage la Prairie to carry floodwaters to Lake Manitoba. Construction of the main dam began in 1964.

Smaller irrigation and water-supply projects assisted by PFRA number better than 14,800; most of them serve individual farmers but a number serve adjacent farms or small communities and many of them provide substantial water supplies for various uses. Since the inception of the program, some \$19,700,000 has been spent by PFRA on such projects.

Under the provisions of the Atlantic Development Board Act of 1962, amended in 1963 and 1966, a \$150,000,000 Atlantic Development Fund was established to support projects which would contribute to the growth and development of the economy of the Atlantic region. The Act also required the Board, in consultation with the Economic Council of Canada, to prepare an over-all co-ordinated plan for the promotion of the economic growth of the region. Among the projects initiated during the Board's first four years of operation were a number relative to water use for power production and for industry, the most notable being a \$20,000,000 grant toward the \$120,000,000, 600,000-kilowatt Mactaquac dam in New Brunswick and a similar grant toward Newfoundland's \$88,000,000, 225,000-kilowatt (first stage) Bay d'Espoir hydro-electric project. The Board also assisted in developing water supplies to meet the needs of industries—mainly fish-processing plants—in some 35 communities, and committed \$2,000,000 toward abatement of industrial pollution in inland waters of the region. As part of its planning activities, the Board engaged consultants to carry out a \$1,500,000 study on the supplies of water in the region and the demands that are likely to be made upon them up to 1981 and beyond. To Mar. 31, 1967, the Board had committed from the Atlantic Development Fund \$99,000,000, of which \$55,000,000 had been spent.*

The program under the Agricultural Rehabilitation and Development Act (ARDA) (see p. 471) included, during the first three years of the program to Mar. 31, 1965, some 207 soil and water conservation projects for which the Federal Government shared the costs to the extent of \$12,300,682.

Under the Canada Water Conservation Assistance Act of 1953, which enables federal participation up to 37½ p.c. of the cost of dams and other major water projects, six water control programs—the Halton Region, Metropolitan Toronto Region, and the Upper Thames River conservation programs in Ontario, and the Alberni, North and West Van-

* The functions of the Board and its operations are dealt with in greater detail in Chapter XXIV, Sect. 6, Subsect. 2.

couver, and Hastings Creek flood control in British Columbia—are being assisted. The over-all cost of these programs is estimated at \$39,500,000, of which the Federal Government is committed to \$14,800,000.

Other federal and federal-provincial programs and agencies concerned with water are: the Greater Winnipeg Floodway program, to construct a floodway past Winnipeg at a total estimated cost of \$63,000,000, of which the Federal Government will contribute about \$37,000,000; the Prairie Provinces Water Board, to recommend an allocation of water from interprovincial streams; the Saskatchewan-Nelson Basin Board, to study the water resources of the Saskatchewan-Nelson Rivers basin including potential additional supply by diversion or storage; the Atlantic Tidal Power Programming Board, to carry out studies for the development of the power potential of the tides of the Bay of Fundy; a co-ordinated study of Ontario rivers flowing into James Bay and Hudson Bay, to assess the quantity, quality, and present and future requirements for these waters, and to suggest alternative possibilities for their use; and a considerable number of varied hydrologic and water quality studies conducted by the Department of Fisheries, the Canada Department of Agriculture, the Department of National Health and Welfare, the National Research Council, the Department of Transport, the Department of Energy, Mines and Resources, the Department of Forestry and Rural Development, and several other agencies.

Lands, Forests and Wildlife

The Prairie Farm Rehabilitation Act of 1935 provided for rehabilitation of areas subject to drought and wind erosion in the Prairie Provinces and in 1937 was amended to broaden its scope to include land utilization and resettlement. In the main, the PFRA's land-use programs have involved the establishment of community pastures on land sub-marginal for cereal crop production, and over the years this program has resulted in the establishment of 87 operating community pastures, with five more under construction, totalling 2,500,000 acres, at a total cost of \$10,000,000. The PFRA operates a tree nursery at Indian Head in Saskatchewan, which distributed free more than 10,225,000 trees to farmers for farm and field shelterbelts during 1966-67. In that year, 1,966 miles of field shelterbelts were planted.

The Agricultural Rehabilitation and Development Act, proclaimed in 1961, arose out of recognition of a national interest in achieving better land use, improving the viability of farm units at present uneconomic, and of improving employment and income opportunities in rural areas. In many areas of Canada, income is unacceptably low and land use faulty or inefficient. To some considerable degree these economic, social and conservation problems have been caused by farm mechanization which places smaller, less-mechanized farmers at a disadvantage; a notable symptom of this is the decrease in the number of farms in Canada from about three quarters of a million in 1931 to less than half a million (431,000 in 1966).

The Act, amended in 1966 as the Agricultural and Rural Development Act and supplemented by the Fund for Rural Development Act of 1966, is enabling legislation intended to be complementary and supplementary to existing federal and provincial legislation in respect of renewable resources and rural social and economic development; to aid in correlation and expansion of existing programs; and to fill gaps. As such, it has considerable potential as an instrument for programs of alternate land use, soil and water conservation, development of rural income and employment opportunities, and for research. ARDA is a federal-provincial program which operated from its inception to Mar. 31, 1965 under a federal-provincial General Agreement, and after that time under the Federal-Provincial Rural Development Agreement covering the period 1965-70. Under the General Agreement, ARDA approved projects involving a federal share totalling \$34,517,000 of which \$13,484,000 was expended during the period. The federal share is usually in the order of 50 p.c. of total cost. The Federal-Provincial Rural Development Agreement 1965-70 provides for the expenditure of \$125,000,000 during that period. In addition, \$300,000,000

is provided under the Fund for Rural Economic Development Act to finance major projects in special rural development areas. During 1966-67, the Federal Government committed ARDA funds to the extent of \$39,429,000, covering 371 projects.

The Canada Land Inventory being co-ordinated by the ARDA Administration has been made possible by extensive soil classification work in Canada over the past half-century. The co-operative Soil Surveys, which have been under way since 1935, are staffed by soil specialists of federal and provincial governments and universities and are supported by all senior governments. The Soil Surveys have mapped most of the agricultural land of Canada, classifying soils according to their inherent characteristics. The Department of Energy, Mines and Resources has conducted a second type of land classification according to present use, and various agencies, both federal and provincial, have provided information on the social and economic factors of land use. The Canada Land Inventory carries out a third type of land classification—according to its assessed capability for different uses, i.e., agriculture, forestry, recreation and wildlife, in and adjacent to the settled portions of Canada. Lands are being classified according to physical capability, present use, and socio-economic factors relative to their present use. The vast amount of information obtained will be stored on computer tapes, analysed and published in map or other form in such a way that the Inventory will become a working tool in resource planning and rural development programs throughout Canada. Approximately 100 agencies of the 11 senior governments are involved in the Inventory, as well as numerous universities, non-government organizations and private companies or individuals. By late 1967, the agriculture and present land use phases of the Inventory had been nearly completed and substantial progress had been achieved in the forestry, wildlife and recreation phases. Capability maps at a scale of 1:250,000 may be obtained from the Queen's Printer as they become available.

In addition, other federal agencies and federal and federal-provincial programs are concerned with land and land-based resources. The Department of Indian Affairs and Northern Development engages in such diverse activities as the administration of National Parks, the administration of the resources of the Yukon and Northwest Territories and the administration of wildlife, including a considerable research program relative to wildlife and the administration of the Migratory Birds Convention Act. Among the programs are the Wildlife Inventory Program in which joint studies are carried out informally, e.g., the waterfowl inventory conducted by the Federal Government, the United States Fish and Wildlife Service, Newfoundland and the five westernmost provinces; the caribou inventory by the Federal Government and the Governments of Alberta, Saskatchewan, Manitoba, Quebec and Newfoundland; the Trans-Canada Highway Compounds and Picnic Areas Program established in 1958 without Ontario and Quebec; a significant program of acquisition of wetlands waterfowl habitat areas; and Fur Conservation Agreements between the Federal Government and Ontario, Manitoba and Saskatchewan for the construction of water control works, mainly to improve muskrat and migratory bird habitat. The Roads to Resources program, carried out under agreements with the provinces made between 1958 and 1960, is a substantial federal-provincial program involving construction of access roads in Canada's "pioneer fringe". The Department of Forestry and Rural Development administers the Composite Forest Agreements which involve an annual allotment by the Federal Government of \$7,910,000 for purposes of inventory, fire protection, access roads and trails, and forest stand improvement. Forest products research, a joint federal-provincial-industry program of spraying to control budworm infestation of spruce forests in New Brunswick, and various other programs of research and forest stand improvement are in effect.

Notwithstanding the magnitude of these federal and federal-provincial programs, and the large number of federal agencies concerned with resource use and development in Canada, it should be noted that the provincial governments assume a role which, in total, is many times larger than that of the Federal Government.

CHAPTER XI.—AGRICULTURE

CONSPECTUS

	PAGE		PAGE
SECTION 1. AGRICULTURAL TRENDS AND HIGHLIGHTS IN 1966 AND 1967.....	473	Subsection 1. Income from Farming Operations.....	493
SECTION 2. FEDERAL GOVERNMENT IN RELATION TO AGRICULTURE.....	477	Subsection 2. Volume of Agricultural Production.....	497
Subsection 1. Services of the Canada Department of Agriculture.....	478	Subsection 3. Field Crops.....	498
Subsection 2. Farm Assistance Programs...	481	Subsection 4. Livestock and Poultry.....	503
SECTION 3. PROVINCIAL GOVERNMENTS IN RELATION TO AGRICULTURE.....	487	Subsection 5. Dairying.....	508
Subsection 1. Agricultural Services.....	487	Subsection 6. Fruits, Vegetables and Other Farm Products.....	513
Subsection 2. Agricultural Schools, Colleges and Universities.....	493	Subsection 7. Prices of Agricultural Products	520
SECTION 4. STATISTICS OF AGRICULTURE.....	493	Subsection 8. Food Consumption.....	522
		SECTION 5. AGRICULTURAL STATISTICS OF THE CENSUS.....	526
		SECTION 6. INTERNATIONAL CROP STATISTICS.	534

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Section 1.—Agricultural Trends and Highlights in 1966 and 1967

Agriculture has been and continues to be a most important part of the Canadian economy. Farm cash receipts for agricultural production in 1966 reached a total of \$4,273,575,000 but this value of primary farm production gives only a partial view of the importance of the industry. To this must be added the processing, the transportation and the myriad other allied groups that are involved in the movement and transformation of the raw product of the farm into food for Canada and for the world. Despite the fact that only about 10 p.c. of the present Canadian work force is engaged in agricultural pursuits, compared with about 25 p.c. in the mid-1940s, agricultural production has, in the same period, increased by about 40 p.c. The primary producer, the farmer, has become more efficient, producing more food with less help, and the processing industry has paralleled that increase in efficiency.

It may be said that the dominant trends in Canadian agriculture since the end of World War II have been the marked reduction in the number of farms and in the farm labour force, accompanied by increases in capital investment, in specialization, in mechanization and in output. These trends have not yet run their course so that adjustment is constantly taking place in the structural organization of agriculture at the farm level. In addition, important developments have occurred in the marketing, processing and handling of farm products and in the response of industry to serve agriculture with the necessary machinery and production supplies.

Although a great many farms have been transformed into modern, efficiently operated units, there are still large numbers that have not made this adjustment. The returns from agricultural output on these old-type farms are small and their operators often find it necessary to seek part-time employment in off-farm activities. Even on farms where adjustments have been made to larger acreages or more capital input, there is a great disparity in revenue between the smaller and larger farms. Increased productivity for

the group as a whole barely meets the increased costs of modern farming. Prices of farm products generally have not risen as fast as the costs of the goods and services that farmers purchase. The impetus on the part of farmers is to continue to increase efficiency and to exert as much influence as possible in effecting higher returns for their products.

Farmer groups have entered extensively into the marketing and processing of farm products, through the formation of either co-operatives or marketing boards. Aided by government legislation, producer marketing boards have been established for many products with the avowed purpose of stabilizing prices. Direct government aids are also available through price stabilization, crop insurance and farm credit policies. Thus, the role of governments and of farmer-controlled companies in the marketing of farm products is expanding year by year. On the other hand, private industry still holds and likely will continue to hold an important place in the processing and marketing field. Geographical shifts in production have required the construction of new plants, especially for livestock slaughter, and in recent years a number of new plants have been built for the processing of fruit and vegetable crops. Progressive trends in agriculture have also had the effect of increasing demand for many industrially produced commodities and services such as machinery, electricity, fertilizers, antibiotics, pesticides and so on.

Although improvements in farm practices have certainly resulted in greater agricultural productivity in recent years and will continue to do so, it must not be forgotten that weather is still a dominant factor in agricultural output and can cause considerable variation from year to year in the over-all farming picture or in the output of certain localities or of certain crops. In 1966 the weather was particularly favourable for crop production with the result that the index of field crop output (1949=100) rose to 204.1, the highest level ever reached. In 1967, on the other hand, crop production was hampered by the lack of rainfall and, as a consequence, over-all agricultural production declined from 10 p.c. to 15 p.c.

Agricultural Highlights in 1966 and 1967

Agriculture experienced an impressive year in 1966. On the marketing front, strong external demand for Canadian wheat spurred farmers to plant a record acreage and, assisted by excellent growing conditions, to produce 827,000,000 bu., the largest crop ever harvested in Canada. On the income front, another record was reached when farm cash receipts passed the \$4,000,000,000-mark for the first time. On the legislative front, the establishment of the Canadian Dairy Commission and amendments to the Crop Insurance Act were important milestones in agricultural history.

Much attention was focused on the dairy industry during the year. In March, a new federal dairy policy was announced, aimed at raising producer income, stabilizing the industry, and protecting consumers against runaway prices. It provided farmers with an average return of \$4.00 per cwt. for manufacturing milk at the plant, as against the \$3.50 figure of the previous year. Later in the year the selling price of butter was increased by two cents and the average return for manufacturing milk reached \$4.08.

Also in March, Canada's sheep producers received notice of a 16.3-cents-per-lb. deficiency payment for wool, and 24,000 of them received payments from the federal treasury totalling \$655,000. A new price support program for eggs was brought in; reflecting the trend toward larger laying flocks, the program provided price support for a larger number of eggs marketed by the producer.

In April, in the field of research, announcement was made of the discovery and development of a new broad-spectrum antibiotic by a team of Canada Department of Agriculture (CDA) scientists. The new antibiotic, called *Myxin*, promises to be a major weapon against disease and has been hailed as a major scientific breakthrough.

In May, a program that takes its place as a 'first' in agricultural circles—the importation of cattle from Europe—was climaxed when 109 Charolais were released from CDA's maximum security quarantine station on Grosse Île, Que. These were the first cattle to come to Canada from France in this century. Late in the month, the Head of the

University of Manitoba's Economic Department was appointed a one-man commission (Barber Commission) to inquire into the dilemma of rising costs of farm machinery and repair parts.

Canada's international relations in the field of agriculture were strengthened by the visits of Canadian agricultural officials to Britain, France and Yugoslavia and, later, of a four-man Yugoslavian agriculture and trade mission to Canada.

In July, an amendment to the Crop Insurance Act received Royal Assent, broadening the scope of the Act to offer farmers from coast to coast greater protection against the vagaries of weather. The new provisions include: insurance up to 80 p.c. of the average yield of a crop; protection against loss of production units such as fruit trees or perennial forage stands; compensation for the cost of summerfallowing when natural causes prevent seeding the following year; and an increase in the federal contribution to the total premium. (See also pp. 482-483.)

In late July, the Minister of Agriculture visited Argentina on invitation of the Argentine Rural Society. During the visit, he and his counterpart in that country reached a common position favouring an increase in world wheat prices to cover rising costs of production.

In September, an important milestone was reached in Canada's determined fight against animal disease. On a farm near Montmagny, Que., the Minister of Agriculture turned veterinarian briefly to take a blood sample from a cow to mark completion of the initial testing of the nation's cattle herds for brucellosis. Now only the Scandinavian countries exceed Canada in freedom from that disease. In another problem area, announcement was made of the payment of compensation to livestock owners for losses suffered through the disease anthrax.

In October, the Act establishing the Canadian Dairy Commission was proclaimed. Apart from the Canadian Wheat Board, it marks the first entry of the Federal Government into a national marketing agency for agricultural products. The Commission is responsible for stabilizing the price of manufacturing milk and cream to provide efficient producers with a fair return for their milk and to assure consumers of an adequate supply of dairy products. It administers federal support funds and determines a basis of payments for the benefit of milk and cream producers. (See also p. 482.)

Also in October, Canada's Minister of Agriculture was elected vice-chairman of the meeting of Ministers of Agriculture of member countries of the UN Organization for Economic Co-operation and Development (OECD) held in Paris. The meeting reviewed the agricultural policies and goals of member countries and their relation to international trade and the needs of developing countries.

On Dec. 2, the Agricultural Stabilization Board announced a deficiency payment of \$6.38 per standard ton of sugar beets marketed by growers during the 1965 crop year. A few days later, the Board also announced an interim deficiency payment of \$3.00 per ton on the 1966 sugar beet crop.

Significant for grain growers was the announcement in December of two new oat varieties, Sioux and Kelsey. These varieties have considerable resistance to disease and are higher yielding than standard varieties.

During 1967, the Centennial Year, there were many remarkable developments in Canadian agriculture, including the implementation of the new dairy policy, the successful conclusion of the Kennedy Round with its promise of reduced tariffs for many agricultural products and items of interest to farmers, changes in the anti-dumping code, the conclusion of an International Wheat Arrangement, and the formation of a task force to study Canada's agricultural future. In the production field, Canadian farmers sold products estimated to bring their cash receipts to a new high of \$4,400,000,000. Net income, however, which includes inventory changes, fell below that of 1966.

Domestically, one of the more profound events was the policy announced by the newly founded Canadian Dairy Commission (CDC). The Government subsidy was

raised from \$90,000,000 for the dairy year 1966-67 to \$120,000,000 for 1967-68, which meant an increase from 85 cents to \$1.21 to be paid directly to the dairy farmer for every 100 lb. of 3.5-p.c. butterfat milk sold for processing, less a holdback of 11 cents toward the cost of exporting surpluses, if any. The Government also offered to buy butter at 63 cents, skim milk powder at 20 cents and cheddar cheese at 38 cents per lb. (plus export aid) to make it possible for the dairy plants to pay the producer \$3.50 or thereabouts. For the first time, however, the subsidy was to be based on quota production. For the time being, the 1966-67 milk production was taken as sufficient for current market needs and producers were notified that they would be paid a subsidy in 1967-68 only on an amount equal to that which they had marketed for processing in 1966-67. The CDC made allowances for individual exceptional circumstances but indicated that it would work also toward raising the minimum amounts eligible for assistance. Dairying was in the news all year. Many farm organization meetings were held during the spring and, in October, CDA officials met with representatives of all sectors of the industry to discuss its problems. Finally, in mid-December, a conference attended by representatives of farm organizations, processors, provincial governments and the Federal Government reached general agreement on a policy to meet the difficulties facing the industry.

CDA's project of making new blood lines available to cattle breeders was continued in 1967. In April, an additional 214 head of Charolais, imported from France and held in quarantine at Grosse Île, Que., were released to buyers and, in the fall, the importation of a further 236 head was authorized. Measures were taken to ensure that full-blooded Charolais would remain in the country to carry out the purpose for which the program was initiated, rather than be sold abroad immediately.

Support for egg producers was increased by making the 34-cents-per-doz. federal buying price applicable to all amounts of eggs between 1,000 doz. and 10,000 doz. marketed by eligible producers. In July, the Government stepped in to buy surplus eggs which were converted into egg powder and donated to the World Food Program. The price improved and, since the national average for Grade A Large for the crop year was 36.7 cents per doz., no deficiency payment was necessary. A joint federal-provincial program was also put into effect to assist producers' returns from potatoes when it was evident that production was far in excess of normal market requirements. Potatoes were diverted to starch plants and to cattle feed at government cost. Support for the 1967 sugar beet crop was set at a national level of \$15.50 per standard ton (250 lb. of sugar) delivered to processing plants, and an interim deficit payment was subsequently made. The federal action encouraged Ontario growers to maintain the acreage stipulated by processors as the minimum they would need to operate in 1967 and it also protected producers from serious fluctuations in the world price. A deficiency payment of 18.3 cents per lb. on wool was made in March. In the fall, the Government moved to control below-cost movement of imported live turkeys.

In 1967, Ontario and British Columbia entered the federal-provincial insurance scheme under the Crop Insurance Act and it was estimated that, including those from other participating provinces, 33,000 farmers received \$90,000,000 worth of crop protection in the year. More flexibility was brought to Farm Credit Corporation mortgages by allowing suspension of repayments under special circumstances. Such suspension might be for as long as five years on a 30-year loan.

CDA officials gave strong support to "Man the Provider", the agriculture theme pavilion at Expo 67 held at Montreal from April to October. The Minister of Agriculture formally opened the pavilion, presented certificates to those who had helped establish it, and entertained visiting agricultural ministers from foreign countries. The Department's plant and meat inspection staffs had important roles in keeping out banned material with minimum interference in the operation of the numerous foreign exhibits.

The Minister of Agriculture was Canada's delegate to the UN Food and Agriculture Organization Conference held in Rome in November. He urged that the organization be streamlined for effective action against world hunger and that private enterprise contribute management skills and capital to the important programs involved.

It was announced that CDA will pay municipal grants equivalent to the full taxes for six government grain elevators in 1968; the Department has been paying grants since 1961 but only at the level of 50 p.c. of tax equivalent, under the Municipal Grants Act formula.

The opening of the South Saskatchewan River dam in the summer of 1967 marked the successful conclusion of seven years of construction supervision by the CDA's Prairie Farm Rehabilitation Administration engineers. The \$100,000,000 storage, irrigation and power project were named Gardiner Dam and Diefenbaker Lake. A \$200,000 dam was authorized for the Esterhazy area of Saskatchewan where there are many farms and where a large phosphate mine is giving jobs to residents and newcomers. The 12-man team from PFRA, which went to Ghana two years ago to help with the exploitation of that country's water resources and to train staff, is continuing its work there.

During the year, the Barber Commission continued its investigation of the agricultural machinery industry. In the fall, a task force was named by the Minister of Agriculture to project national agricultural goals and to recommend policies. Comprising economists, a business management expert and an accountant, the five-man group held several meetings before the end of the year. In late November a dozen veterinarians of the CDA's Health of Animals Branch were sent to assist in fighting a severe outbreak of foot and mouth disease in Britain.

The value of applying the results of research was made very evident in 1967 when, despite unfavourable weather, spring wheat yield per acre of 19.4 bu. was only 3 p.c. below the ten-year (1956-65) average. Improved varieties, pest control and fertilizer practices, moisture-conserving tillage methods and efficient harvesting all contributed to mitigate the adverse conditions. Each of the contributing factors was the result of years of research by the Department.

In March, the Department's Divisions, scattered in 18 locations in the city of Ottawa, moved into the new Sir John Carling Building on the grounds of the Central Experimental Farm. This became the headquarters of CDA, housing the Minister and Deputy Minister staffs, the Production and Marketing, Economics, Health of Animals, Financial and Administration, and Personnel Administration Branches and the Farm Credit Corporation. The positions of assistant deputy ministers for economics and for production and marketing were created and filled.

Section 2.—Federal Government in Relation to Agriculture*

The Canada Department of Agriculture dates from Confederation. It was established in 1867 as an outgrowth of a Bureau of Agriculture set up in 1852 by an Act of the Legislature of the Province of Canada. The Department derives its authority from the British North America Act, 1867, which states in part that "in each province, the legislature may make laws in relation to agriculture in the province" and that "the Parliament of Canada may from time to time make laws in relation to agriculture in all or any of the provinces; and any law of the legislature of a province relative to agriculture, shall have effect in and for the province as long and as far as it is not repugnant to any Act of the Parliament of Canada".

A Department of Agriculture with a Minister of Agriculture at its head was accordingly established as part of the Government of Canada. Departments of Agriculture headed by provincial Ministers of Agriculture were also set up by the provincial governments, except in the Province of Newfoundland where agricultural affairs are dealt with by the Agricultural Division of the Department of Mines, Agriculture and Resources. The agricultural affairs of the Yukon and Northwest Territories are administered for the Federal Government by the Department of Indian Affairs and Northern Development.

* Prepared (July 1967) under the direction of S. B. Williams, Deputy Minister of Agriculture, Ottawa.

Subsection 1.—Services of the Canada Department of Agriculture

The activities of the Canada Department of Agriculture (CDA) fall into three broad groups: research, promotional and regulatory services, and assistance programs. Research work is aimed at the solution of practical farm problems through the application of fundamental scientific research to all aspects of soil management and crop and animal production. Promotional and regulatory services are directed toward the prevention or eradication of crop and livestock pests and the registration of chemicals and other materials used to achieve that end and toward the inspection and grading of agricultural products and the establishment of sound policies for crop and livestock improvement. Assistance programs cover some of the sphere of soil and water conservation, price stability, provision of credit, rural rehabilitation and development, and crop insurance and income security in the event of crop failure.

The Department has four main Branches—Research, Health of Animals, Economics, and Production and Marketing—and its organization includes a number of smaller units—the Agricultural Stabilization Board which is a departmental Crown corporation (see p. 481), the Agricultural Products Board, the Prairie Farm Rehabilitation Administration (p. 469), Crop Insurance (p. 482), the Information Division and Departmental Administration. Agencies closely allied with the Department and responsible to the Minister of Agriculture are the Farm Credit Corporation (p. 485), the Canadian Dairy Commission (p. 482) and the Board of Grain Commissioners (see Part II of Chapter XXI).

Research Branch.—The research activities of the Department are undertaken mainly by the Research Branch at some 55 centres across the country, although important contributions are also made by the Economics Branch (p. 480), the Health of Animals Branch (p. 479) and the Grain Research Laboratory operated by the Board of Grain Commissioners for Canada (p. 479). About 1,000 research workers are employed by the Department and their specialties run the gamut of scientific agriculture from genetics to engineering. Most of the research is directed from Research Branch executive headquarters at the Central Experimental Farm in Ottawa. Also located there are the statistical, engineering and analytical chemistry research services, together with six of the eight institutes for research on animals, food, entomology, cell biology, plants, soils, biological control and pesticides. Throughout the ten provinces there are 26 research stations, 13 experimental farms, a laboratory and a number of substations.

Originally, the main task of the experimental farms was to determine the potential of the various combinations of soil and climate for producing crops and maintaining livestock, and to develop and test varieties, breeds and management practices suitable for each area. Today's federal research program continues with this early work but is designed to meet the specific needs of domestic and export markets.

Canada's main crop for generations has been wheat, the efficient production of which stems directly from the help the grain growers have received from research. Without the new varieties produced by plant breeding, it would be unprofitable to grow wheat on large areas of the wheat belt. Comparable improvements in oats and barley have enabled the farmer to continue to grow these valuable cereals despite the incidence of pests and diseases, drought and short growing seasons. Research has also augmented livestock returns to farm incomes by developing better grasses and legumes adapted to the various regions of Canada that differ in climatic and soil conditions. Research in other crops, notably oil seed plants and potatoes, has resulted in new varieties with resistance to diseases, with improved quality and suitability for specific processing, and adapted to the different growing areas. More than 80 new varieties of crops have been developed and put into commercial production in the past ten years. Research into the storage and processing of crops has been accelerated and has led to valuable innovations in the fruit and vegetable industries and in the protection of stored grain.

In livestock, the main lines of progress are through genetics and nutrition and the main subjects are dairy and beef cattle, pigs, poultry and sheep. The advantages of

selective breeding have been evidenced through the records of animals tested for many years. The CDA developed a new breed of hog, the Lacombe, which is proving a worthy addition to the old-time breeds. Romnelet, a range-type sheep, was also an outcome of federal breeding programs. Crosses of several meat-type strains of chickens made at federal institutions have led to performance superior to that of pure strains. Extensive studies on the causes and control of diseases and parasites of livestock, fur bearing animals and wildlife are carried on with the result that epidemic outbreaks rarely occur and when they do are quickly suppressed. Live animals and meats must attain the high standards required in the export trade.

A matter of constant concern is the protection of crops from diseases and pests. Chemicals have proved to be potent weapons but there is also a continuing search for other control methods. Many weeds can be eradicated by proper tillage and cropping methods and a few have been controlled by insects that feed on them exclusively and destroy them. Fungus diseases may be checked by developing resistant varieties of crops. In biological control, parasites or predators are produced and released to prey on certain insects and eliminate them. Sterilization of male insects by radiation or chemical means is another method used to reduce insects of various kinds.

An area of special interest is that of farm mechanization in which there has been tremendous development in the past 60 years. The Research Branch is expanding its studies in this field at the Engineering Research Service in Ottawa and in the Maritime Provinces, and universities are being encouraged to study the subject more intensively.

Soil surveys are conducted in all provinces in co-operation with provincial departments of agriculture and the universities. Soils are examined and classified as to their chemical and physical characteristics and potential productivity. The resulting information is of inestimable value in setting up land uses under the ARDA program administered by the Department of Forestry and Rural Development (see pp. 470-471). Soil fertility is under study at many experimental farms and at research stations and is undertaken in close co-operation with the universities. Agrometeorology, a relatively new science, is opening new opportunities to growers to make the best use of the heat, light and moisture available in each farm area.

Although most agricultural research is carried out by the CDA, important programs are also undertaken by the provincial governments and agricultural colleges. Close liaison exists between these different agencies to avoid duplication and to ensure that the services offered by the Federal Government through provincial extension officers are of the kind needed by farmers. Federal research establishments across the country are represented on provincial committees concerned with field crop varieties, fertilizer practices, soil fertility, spray programs, field crop and animal management, and horticulture. Such collaboration ensures that new practices discovered by research are brought quickly to the attention of extension groups to recommend for local use.

The Grain Research Laboratory.—This Laboratory provides scientific services required in the administration of the Canada Grain Act. It carries out annual studies of the quality of the new crop cereals, maintains a continuous check of the quality of cereal grains as they move forward from the farm to marketing positions and plays a major role in testing (prior to licensing) the quality of plant breeders' varieties of various cereals. A comprehensive program of basic and applied research relating to the quality of Canadian cereal grains is an important task of the Laboratory.

Health of Animals Branch.—This Branch administers the Animal Contagious Diseases Act, the Meat Inspection Act and the Humane Slaughter of Food Animals Act, and operates laboratories for the study of animal diseases. Contagious diseases of animals are controlled through preventive measures of inspection and quarantine of imported livestock and restricted commodities such as meat, farm products and other possible sources of infection; through conducting disease eradication programs, notably of bovine tuberculosis, brucellosis and John's disease; through the control and eradication of serious

animal diseases when outbreaks occur; and through inspection and certification as to health of livestock for export. The Animal Pathology Division consists of the Animal Diseases Research Institute at Hull, Que., the Animal Diseases Research Institute (Western) at Lethbridge, Alta., and seven branch laboratories; these establishments conduct research and investigations on infectious diseases of animals and produce the biological products required in their control. The Division also provides diagnostic services for diseases of domestic and wild animals and conducts a training program for departmental officers and veterinarians from other lands. The Meat Inspection Division conducts ante-mortem and continuous post-mortem examination of animals slaughtered at packing plants that market their meat products outside of the province in which they operate, ensures maintenance of sanitary standards during processing of the products, accurate labelling and proper kind and use of ingredients and preservatives; it ensures also that, in these plants, the animals are slaughtered in a humane manner.

Economics Branch.—This Branch collects, analyses and interprets economic information needed to formulate and administer departmental programs and policies and does intelligence and research work designed to increase efficiency in agricultural production and marketing and to guide farmers in making needed adjustments in farm organization and operation. It acts as an economic and statistical research agency for the Agricultural Stabilization Board, the Prairie Farm Rehabilitation Administration and other bodies, and assists in any economic undertakings with which the Department is concerned. The Branch is also closely associated with the work of the Food and Agriculture Organization of the United Nations, the UN/FAO World Food Program, the General Agreement on Tariffs and Trade, and the Directorate of Agriculture of the Organization for Economic Co-operation and Development.

Production and Marketing Branch.—The Production and Marketing Branch conducts many of the promotional and regulatory functions of the Department. Six specialized divisions administer legislation and policies in the production and marketing of livestock, poultry, fruits and vegetables, dairy products and plant products, and policies in connection with the control of disease in plants. A General Service Division supplements and complements the specialized divisions in matters of common concern.

The *Livestock Division* administers legislation dealing with the grading of meat, wool and fur, with the registration of livestock pedigrees, with performance testing of cattle and hogs and with the supervision of racetrack betting. Other activities include the promotion of livestock improvement and the compilation of market statistics. The *Poultry Division* carries out the policies of the national poultry breeding program, including Record of Performance for poultry and hatchery inspection, and administers the regulations for the grading of poultry products. The *Fruit and Vegetable Division* administers legislation having to do with the grading of fruits and vegetables in both fresh and processed form, maple products and honey. The Division is responsible for the licensing of inter-provincial and international dealers and brokers who deal in fresh fruits and vegetables. The *Dairy Products Division* administers the Cheese Factory Improvement Act and legislation covering grades and standards for dairy products, including butter, cheese, concentrated milk products and ice cream. The *Plant Products Division* administers Acts and regulations respecting seeds, feedstuffs, fertilizers and pest-control products, conducts field inspections and maintains regional testing laboratories. The *Plant Protection Division* is responsible, under the Destructive Insect and Pest Act, for safeguarding against the introduction of serious plant insects or diseases into Canada or their spread in Canada, for certifying freedom from disease and pests in plant exports, and for seed potato certification.

The *General Service Division* maintains inspectors in the principal marketing areas to see that food products being sold by retail outlets meet prescribed standards of quality and grade; maintains inspectors at the main Canadian ports to check the handling of goods

moving to export markets; compiles and distributes market information; and co-operates with the commodity divisions in developing markets for Canadian foods and in interpreting the grading and inspection regulations to consumers.

Information Division and Departmental Administration.—The Information Division gathers and publishes information arising from research work and the development of regulatory programs of the Department. Publication is through the printed word, press and radio releases, motion pictures, television and exhibits. The general business management of the Department is undertaken by the Departmental Administration, the duties of which also embrace Emergency Measures Planning and the Departmental Library; the main emphasis of the Library's collection is, of course, on agriculture but extends also to the life sciences.

Subsection 2.—Farm Assistance Programs

Basic to the concept of Canada's national agricultural policy is the premise that a stable agriculture is in the interests of the national economy and that farmers as a group are entitled to a fair share of the national income. In pursuit of these objectives, the Department of Agriculture has carried on, over a long period, a program designed to aid agriculture through the application of scientific research and the encouragement of improved methods of production and marketing. Over the years, as conditions have warranted, programs have been initiated to deal with special situations such as the Prairie Farm Rehabilitation Act (see p. 469) to deal with the results of the drought in the 1930s; the Prairie Farm Assistance Act (p. 486) to mitigate the effects of crop failure; Feed Grain Assistance Regulations (p. 487) to assist in the movement of western feed grains to Eastern Canada and British Columbia; and the Maritime Marshland Rehabilitation Act (p. 464) to save valuable soil in the Maritime Provinces.

Although much has been accomplished and is still being accomplished by these measures, changes in the past two decades have dictated a new approach to some problems. Large-scale mechanization was the sequel to the reduction of manpower available to farmers; the number of farms declined but the size of farms increased; marketing and income problems took different forms. Legislation enacted to meet these situations include price support (Agricultural Stabilization Act), production and markets stabilization (Canadian Dairy Commission Act), crop insurance (Crop Insurance Act), resource development (Agricultural and Rural Development Act), feed grain assistance (Livestock Feed Assistance Act) and credit facilities (Farm Improvement Loans Act, Prairie Grain Advance Payments Act, Farm Credit Act and Farm Machinery Syndicates Credit Act). These measures, with the exception of the Agricultural and Rural Development Act (see pp. 470-471), are described individually below.

Agricultural Stabilization Act.—The Agricultural Stabilization Act (SC 1958, c. 22, proclaimed Mar. 3, 1958) established the Agricultural Stabilization Board and repealed the Agricultural Prices Support Act, 1944. The Board is empowered to stabilize the prices of agricultural products in order to assist the agricultural industry in realizing fair returns for labour and investment, and to maintain a fair relationship between prices received by farmers and the costs of goods and services that they buy.

The Act provides that, for each production year, the Board must support, at not less than 80 p.c. of the previous ten-year average market or base price, the prices of nine commodities (cattle, hogs and sheep; butter, cheese and eggs; and wheat, oats and barley produced outside the prairie areas as defined in the Canadian Wheat Board Act). Other commodities may be supported at such percentage of the base price as may be approved by the Governor in Council. Since the Act came into force, the following farm products, other than the nine named commodities, have been supported at one time or another: honey, potatoes, soybeans, sunflower seeds, sugar beets, tobacco, turkeys, apples, peaches, sour cherries, apricots, raspberries, asparagus, tomatoes, milk for manufacturing and skim

milk powder. The Board may stabilize the price of any product by an offer-to-purchase, by a deficiency payment, or by making such payment for the benefit of producers as may be authorized.

In stabilizing prices of certain commodities by means of deficiency payments, the price stabilization program has been assisting the agricultural industry to make production adjustments from a position of excessive supply to one of more normal relationship between supply and demand. The institution of limited deficiency payments by the Board assists in the adjustment of production in a relatively short time. During the period of adjustment, the Board guarantees a minimum average return to producers for a limited quantity of product.

The cost of stabilization programs under the Act averages \$58,500,000 a year. The Board has available a revolving fund of \$250,000,000. Losses incurred are made up by Parliamentary appropriations and any surplus is paid back to the Consolidated Revenue Fund. An Advisory Committee named by the Minister of Agriculture and composed of farmers or representatives of farm organizations assists the Board in its operations.

Canadian Dairy Commission Act.—The Canadian Dairy Commission was established by the Canadian Dairy Commission Act, 1966, and became operative on Apr. 1, 1967. The affairs of the Commission are directed by three Commissioners, and its objects are "to provide efficient producers of milk and cream with the opportunity of obtaining a fair return for their labour and investment and to provide consumers of dairy products with a continuous and adequate supply of dairy products of high quality".

To perform its functions, the Commission is authorized to stabilize prices of major dairy products through offers to purchase at fixed prices, thus establishing stable prices in the interests of both producers and consumers. The Commission may borrow from the Minister of Finance the funds required for such purchases to a maximum of \$100,000,000, which must be repaid.

The Commission administers the payment of funds provided to it by the Government for subsidies to producers of milk and cream used in the production of dairy products. These payments supplement returns to producers from the market and permit market prices to be kept at reasonable levels. The total quantity of milk and cream on which subsidy is paid is restricted to the volume required to serve the Canadian domestic market. Each producer is given a quota for the amount for which he is eligible for subsidy. The Commission, indirectly, pools returns to producers from products sold on the domestic and export markets through an export equalization fund. Money for this is deducted from the subsidy and payments are made to equalize export prices with domestic prices for any surplus products that must be exported.

The Commission also has authority, under regulation by the Governor in Council, to exercise control of the interprovincial and export movement of dairy products, and to perform other functions related to its responsibilities.

Crop Insurance Act.—To assist in making the benefits of insurance protection on crops available in all provinces, the Crop Insurance Act was passed in 1959. This Act does not set up any specific insurance scheme but rather permits the Federal Government to assist the provinces to do so by making direct contributions toward the cost of providing crop insurance. The initiative for establishing schemes to meet their own regional requirements rests with the provinces. Schemes may be organized on the basis of specific crops or areas within the provinces and agreements between the provinces and the Federal Government set out the terms of insurance coverage.

Under the Act and amendments of 1964 and 1966, the Federal Government will pay 50 p.c. of the administrative costs incurred by a province and 25 p.c. of the amount of premiums required to make the scheme actuarially sound. In addition, the Federal Government may make loans to any province equal to 75 p.c. of the amount by which

indemnities required to be paid under policies of insurance exceed the aggregate of the premium receipts for that year, the reserve for the payment of indemnities, and \$200,000. As an alternative to such loans, the Federal Government may re-insure a major portion of the provincial risk in a program operated under the Crop Insurance Act. Farmers insured under the Act are not eligible for payments under the Prairie Farm Assistance Act, nor are they required to pay the 1-p.c. levy on grain sales as provided for under that Act.

In 1967, 33,042 farmers purchased \$90,419,146 worth of insurance coverage for their crops, compared with 24,500 farmers and \$52,000,000 worth of coverage in 1966. The increase was largely a result of the 1966 amendments to the Crop Insurance Act which broadened its scope by: (a) raising the limit of coverage from 60 p.c. of the average crop yield to 80 p.c.; (b) increasing the Government's contribution to the individual farmer's premium from 20 p.c. to 25 p.c.; (c) extending coverage to fruit trees or perennial plants, and to summerfallow that had been prepared but could not be seeded because of agricultural hazards; and (d) calculation of the average yield from the records of an individual farm where feasible, instead of from the area records.

Farm Improvement Loans Act.—The Farm Improvement Loans Act (RSC 1952, c. 110), administered by the Department of Finance, is designed to provide credit by way of loans made by the chartered banks to assist in almost every conceivable purchase or project for the improvement or development of a farm and includes the purchase of agricultural implements, the purchase of livestock, the purchase and installation of agricultural equipment or a farm electrical system, the erection or construction of fencing or works for drainage on a farm, and the construction, repair or alteration of farm buildings including the family dwelling. Credit is provided on security related to the purchase or project and on terms suited to the individual borrower.

The legislation, originally operative for three years (1945-48), has been continuous by way of extensions usually for three-year periods. The latest extension was for the period July 1, 1965 to June 30, 1968. The maximum term of a loan and the interest rate remain at ten years and 5 p.c. simple interest, respectively. The borrower is required to provide from 10 p.c. to 33½ p.c. of the cost of his purchase or project, depending on the loan category to which it belongs. The Federal Government guarantees each bank against loss sustained by it up to an amount equal to 10 p.c. of loans granted by it in a lending period. This guarantee does not apply to any loan made after the aggregate of all loans made by all banks in a given period reaches an amount fixed by statute. The current maximum stands at \$700,000,000. By Dec. 31, 1966, 3,147 claims amounting to \$2,342,613 had been paid under the guarantee since the inception of the Act, representing a net loss ratio of less than one tenth of one per cent after recoveries have been taken into account. The maximum loan or amount which may be outstanding to a borrower at any one time stands at \$15,000.

1.—Loans Made and Repayments under the Farm Improvement Loans Act, 1945-66

Period	Loans Made	Repayments ¹	Balance Outstanding
	\$	\$	\$
Mar. 1, 1945 to Feb. 28, 1948.....	33,605,576	33,605,576	—
Mar. 1, 1948 to Feb. 28, 1951.....	142,372,774	142,369,291	3,483
Mar. 1, 1951 to Mar. 31, 1953.....	190,449,006	190,433,212	15,794
Apr. 1, 1953 to Mar. 31, 1956.....	222,723,494	222,666,470	57,024
Apr. 1, 1956 to Mar. 31, 1959.....	239,064,072	238,688,648	375,424
Apr. 1, 1959 to June 30, 1962.....	346,906,122	341,810,736	5,095,386
July 1, 1962 to June 30, 1965.....	447,765,708	326,196,020	121,569,688
July 1, 1965 to Dec. 31, 1966.....	319,426,253	50,214,569	269,211,684
Totals.....	1,942,313,005	1,545,984,522	396,328,483

¹ Includes principal amount of claims paid under government guarantee.

2.—Loans Made under the Farm Improvement Loans Act, by Purpose and Province, 1955 and 1966, with Cumulative Totals from 1945

Purpose and Province	1965		1966		Cumulative Totals 1945-66	
	Loans	Amount	Loans	Amount	Loans	Amount
	No.	\$	No.	\$	No.	\$
Purpose						
Purchase of agricultural implements	69,428	152,412,830	65,580	162,058,466	1,082,687	1,554,314,8
Construction, repair or alterations of, or making additions to any building or structure on a farm.	9,431	29,957,670	8,541	29,178,411	100,710	204,759,1
Purchase of livestock.....	7,876	13,871,160	6,972	14,352,909	103,565	131,681,1
Other improvements.....	4,456	6,465,250	4,460	7,206,678	53,882	51,557,8
Totals.....	91,191	202,706,910	85,553	212,796,464	1,340,844	1,942,313,0
Province						
Newfoundland.....	22	47,459	17	45,708	623	961,4
Prince Edward Island.....	1,170	2,082,835	1,206	2,496,776	19,535	23,070,2
Nova Scotia.....	621	1,127,556	492	979,540	13,364	15,569,6
New Brunswick.....	606	1,539,136	532	1,315,656	11,478	15,845,6
Quebec.....	2,049	4,861,966	466	1,200,228	113,008	153,666,2
Ontario.....	16,795	38,324,172	16,289	41,415,021	223,839	344,684,8
Manitoba.....	11,750	25,533,307	10,794	26,554,377	163,212	229,657,1
Saskatchewan.....	28,891	64,149,297	27,116	68,084,067	386,908	566,103,6
Alberta.....	26,799	58,634,662	26,029	63,163,620	370,153	531,807,4
British Columbia.....	2,488	6,406,520	2,612	7,541,401	38,724	60,916,5

Prairie Grain Advance Payments Act.—This Act, which came into force on November 25, 1957, provides for interest-free advance payments to producers for threshed grain (wheat, oats and barley) in storage other than in an elevator under a unit quota. Advance payments of 50 cents per bu. of wheat, 20 cents per bu. of oats and 35 cents per bu. of barley are made, subject to certain restrictions as to quota and acreage. Maximum advance payment per application is \$3,000. Repayment is effected by deducting 50 p. of the initial payment for all grain delivered subsequent to the loan, other than for grain delivered under a unit quota. The amounts deducted are paid to the Board until the producer has discharged his advance.

3.—Applications, Advances and Refunds under the Prairie Grain Advance Payments Act, Years Ended July 31, 1958-67

Year Ended July 31—	Applica- tions	Total Advance	Average Advance	Total Refund	Percents Refund
	No.	\$	\$	\$	
1958.....	50,412	35,203,467	698	35,200,043	99.9
1959.....	45,341	34,369,653	758	34,364,987	99.9
1960.....	50,047	38,492,505	769	38,487,024	99.9
1961.....	76,089	63,912,550	840	63,900,682	99.9
1962.....	22,342	16,656,713	746	16,644,365	99.9
1963.....	39,683	29,251,526	737	29,236,449	99.9
1964.....	63,427	62,136,418	980	62,100,703	99.9
1965.....	38,375	32,961,844	859	32,913,014	99.9
1966.....	43,509	40,600,386	933	40,470,289	99.7
1967.....	36,953	36,668,270	992	35,242,003	96.1

Farm Credit Act.—The Farm Credit Act (SC 1959, c. 43, proclaimed on Oct. 5, 1959) established the Farm Credit Corporation as successor to the Canadian Farm Loan Board established in 1929. The Corporation, which is a Crown agency, reports to Parliament through the Minister of Agriculture.

The Act provides two types of long-term mortgage loans for farmers. Under Part II of the Act the Corporation may lend up to 75 p.c. of the appraised value of the farm land and buildings taken as security, or \$40,000, whichever is the lesser. Under Part III the Corporation may lend 75 p.c. of the appraised value of the farm land and buildings and of the livestock and equipment taken as security, or \$55,000, whichever is the lesser. To qualify for a loan under Part III a farmer must be under 45 years of age and have had at least five years of farming experience. Part III loans are further secured by mandatory insurance on the life of the borrower, and his farming operations are subject to supervision by the Corporation until the loan is reduced to 75 p.c. of the appraised value of the farm land and buildings. Similar life insurance and supervision are available on an optional basis to borrowers under Part II.

The interest rate on the first \$20,000 borrowed under Part II or the first \$27,500 under Part III is set by statute at 5 p.c. On that part of the loan which exceeds these amounts the interest rate is set by the Corporation with the approval of the Governor in Council. This rate can vary according to the interest rate on money borrowed by the Corporation, the operating costs of the Corporation and the allowance made for reserves against capital losses. The interest rate on the amount of loan under Part II exceeding \$20,000 and the amount under Part III exceeding \$27,500 is, at present, 6½ p.c. All loans are repayable on an amortized basis within a period not exceeding 30 years.

The Corporation has 127 field offices administered by 224 credit advisers who are responsible for informing local farmers about the services available, for pre-loan counselling on credit use, farm planning and farm management, for accepting applications and for making farm appraisals.

In addition to the amounts repaid by borrowers, funds for lending to farmers may be borrowed by the Corporation from the Minister of Finance. The aggregate amount of such borrowings outstanding at any time may not exceed 25 times the capital of the Corporation. This capital was raised by amendment to the Act in 1966 from \$24,000,000 to \$40,000,000. There were 58,258 loans to the amount of \$770,554,169 outstanding as of Mar. 31, 1967.

4.—Loans Approved and Disbursed under the Farm Credit Act,¹ Years Ended Mar. 31, 1958-67

NOTE.—Figures for earlier years are given in the corresponding table of previous Year Books beginning with the 1940 edition.

Year Ended Mar. 31—	Loans Approved		Loans Paid Out	Year Ended Mar. 31—	Loans Approved		Loans Paid Out
	No.	\$	\$		No.	\$	\$
1958.....	3,702	21,278,450	19,343,560	1963.....	7,438	90,924,300	78,428,094
1959.....	4,805	30,144,950	28,368,265	1964.....	8,689	108,009,100	96,315,635
1960.....	5,339	40,031,250	35,840,882	1965.....	10,142	154,813,900	139,750,639
1961.....	5,597	60,704,050	52,305,265	1966.....	11,238	208,984,900	201,687,642
1962.....	5,885	68,574,850	68,886,875	1967.....	12,167	247,947,500	234,447,269

¹ The Farm Credit Act replaced the Canadian Farm Loan Act on Oct. 5, 1959.

5.—Loans Approved under the Farm Credit Act, by Province, Years Ended Mar. 31, 1965-

NOTE.—Figures for earlier years are given in the corresponding table of previous Year Books beginning with the 1940 edition.

Province	1965		1966		1967	
	No.	\$	No.	\$	No.	\$
Newfoundland.....	3	55,700	2	45,700	14	363,1
Prince Edward Island.....	124	991,700	100	1,134,900	141	2,242,7
Nova Scotia.....	77	964,100	58	1,006,800	49	842,2
New Brunswick.....	72	821,300	81	1,304,400	195	3,592,2
Quebec.....	1,354	20,326,500	1,140	18,987,200	1,522	25,941,2
Ontario.....	2,131	34,461,200	2,210	42,695,300	2,042	43,332,6
Manitoba.....	691	9,176,200	899	14,879,500	1,122	22,160,2
Saskatchewan.....	2,601	35,570,100	3,197	56,570,200	3,656	72,046,7
Alberta.....	2,602	42,512,300	2,940	58,346,300	2,844	62,408,8
British Columbia.....	487	9,934,800	611	14,014,600	582	15,017,8
Totals.....	10,142	154,813,900	11,238	208,984,900	12,167	247,947,5

Farm Machinery Syndicates Credit Act.—The Farm Machinery Syndicate Credit Act (SC 1964-65, c. 29, proclaimed Dec. 11, 1964) provides the Farm Credit Corporation with authority to make loans to qualified groups of farmers (referred to as syndicate) to purchase farm machinery to be used co-operatively and primarily on the syndicate members' farms. Under this Act, the Corporation may lend a syndicate up to 80 p.c. of the cost of the machinery to be purchased but loans outstanding to any syndicate may not exceed \$15,000 per member or \$100,000. Funds for this purpose are advanced to the Corporation by the Minister of Finance.

To qualify for a loan a syndicate must have three or more members, all of whom are farming and the majority of whom have farming as their principal occupation. Loans are repayable over a term not exceeding seven years. Security is provided by a promissory note signed by each syndicate member and such other security as may be required.

The interest rate, set by the Corporation with the approval of the Governor in Council is based on the cost of funds to the Corporation, the expenses in servicing loans and an allowance for a reasonable reserve against losses; at present it is 6½ p.c. There is an initial service charge of 1 p.c. on the amount of each loan. The Corporation's field staff provide assistance to groups of farmers in making their local arrangements with respect to sharing in the use of the machinery and repayment of the loan. Up to Mar. 31, 1967, the Corporation had approved 262 loans totalling \$1,988,025.

Prairie Farm Assistance Act.—The Prairie Farm Assistance Act, passed in 1939 provides for direct money payments by the Federal Government on an acreage-and-yield basis to farmers in areas of low crop yield in the Prairie Provinces and in the Peace River area of British Columbia. Its purpose is to assist in dealing with a relief problem which the provinces and municipalities cannot do alone and to enable the farmers to put in a crop the following year. Payments for the 1966-67 crop year, as at July 31, 1967, totalled \$3,116,437; payments made under the Act since 1939 amounted to \$361,054,822.

Payments are made from the Prairie Farm Emergency Fund to which farmers contribute 1 p.c. of the value of all sales of wheat, oats, barley, rye, flaxseed and rapeseed. The additional funds required are provided from the federal treasury. The total collected through the 1-p.c. levy in the 1966-67 crop year, as at July 31, 1967, was \$11,674,082; the amount collected since 1939 was \$185,902,984.

Farmers operating land in the spring wheat area, and not covered by a federal-provincial crop insurance scheme, are eligible for awards. Crop failure and natural causes preventing seeding and summerfallowing are taken into account in making awards. These may not exceed \$800 in respect of any one farmer's total cultivated acreage.

Feed Grain Assistance.—The activities of the Feed Grain Administration of the Department of Forestry and Rural Development include the administration of a program respecting freight and storage assistance on Western Canada feed grains used for feeding livestock in Eastern Canada and British Columbia. Under the Feed Grain Assistance Regulations of the Appropriations Act, the original policy was initiated in October 1941 to enable eastern Canadian feeders of livestock and poultry to obtain western-grown feed grains at reduced cost so that livestock and poultry production could be maintained at a high level. This program was amended over the years with the introduction of a storage assistance program, freight assistance to truck movements of grains and feeds and a zone system of payment. Orders in Council passed in 1966-67 amended zone rates to more equitably equalize transport costs to all zones.

On Nov. 17, 1966, Royal Assent was given to the Livestock Feed Assistance Act authorizing the establishment of a Crown corporation known as the Canadian Livestock Feed Board, the function of which is to carry out the administration of the freight and storage assistance programs, to administer the broader objects of the Act of ensuring an availability of feed grain stocks and storage to meet the needs of livestock feeders, and to ensure reasonable stability and a fair equalization in feed grain prices in Eastern Canada and British Columbia.

During the year ended Mar. 31, 1967, \$20,263,373 was spent on the freight assistance program, aiding in the transport of 2,607,510 tons of feed grains and grain products into Eastern Canada and British Columbia, and \$570,714 was spent on the payment of storage charges on western feed grains in store in elevators and vessels in Eastern Canada.

6.—Freight-Assisted Shipments of Feed Grain, by Province of Destination, Year Ended Mar. 31, 1967

Destination	Wheat	Oats	Barley	Rye	Screenings	Millfeeds	Total	Expenditures
	tons	tons	tons	tons	tons	tons	tons	\$
Newfoundland.....	8,923	4,641	4,146	—	985	5,114	23,809	517,505
Prince Edward Island.....	7,576	3,514	10,822	—	1,735	10,127	33,774	504,316
Nova Scotia.....	54,879	20,927	30,711	194	8,544	33,371	148,626	1,872,917
New Brunswick.....	16,898	13,310	15,942	—	6,246	27,835	80,231	1,137,879
Quebec.....	261,041	314,952	393,718	13,161	32,253	271,483	1,286,608	9,955,206
Ontario.....	113,099	220,139	232,263	18,182	61,281	154,912	799,876	4,241,209
British Columbia.....	72,703	39,725	84,438	183	3,431	32,079	234,586	2,034,341
Totals.....	535,119	617,298	772,040	31,720	114,475	534,921	2,607,510	20,263,373

¹ Includes 2,027 tons of corn destined for British Columbia.

Section 3.—Provincial Governments in Relation to Agriculture*

Subsection 1.—Agricultural Services

Newfoundland.—Government agricultural services in Newfoundland are operated by the Agricultural Division of the Department of Mines, Agriculture and Resources. The Division is in charge of a director who is assisted by a staff of 49 officers. For purposes of administration, the province is divided into nine districts. A fieldman with permanent headquarters is located in each district except Labrador, where the officer is resident for the summer only. Officers in charge of different phases of agricultural development visit each district on assignments from the St. John's office.

Departmental policies in support of the agricultural industry include: a bonus of \$125 an acre on land cleared by privately owned equipment; the distribution of ground

* Information supplied by the agricultural authorities of the various provinces.

limestone at a subsidized rate; the payment of bonuses on purebred sires; and financial assistance to agricultural societies, marketing organizations and exhibition committees. An inspection service is provided for poultry products, vegetables and blueberries, production of the latter being encouraged by the burning of suitable berry areas and the improvement of roads and trails leading to them.

Every encouragement is given to the production of livestock. Poultry and beef production have increased with favourable marketing conditions and with departmental assistance and loans under the Provincial Farm Development Loan Act. The Provincial Veterinarian and his staff supervise the health of animals program and the joint federal-provincial project for the eradication of bovine tuberculosis.

The Agricultural Division co-operates with the Department of Education in furthering the 4-H Club movement in the province and accepts responsibility for all projects pertaining to agriculture.

Prince Edward Island.—The activities of the provincial Department of Agriculture are indicated by its staff establishment which includes, in addition to the Minister and Deputy Minister, a dairy superintendent, three check testers, three dairy herd improvement promoters, a director of veterinary services and ten subsidized practising veterinarians, a livestock director, a director of marketing and research and two research fieldmen, a director of extension, a horticulturist, a soil analysis assistant, a poultry fieldman, an economist, an agronomist, a director of 4-H Clubs, three agricultural representatives, a nursery supervisor, a forester and an assistant forester, a farm improvement supervisor, and a director, an assistant director and two extension workers of Women's Institutes.

Nova Scotia.—The Department of Agriculture and Marketing endeavours to "help the people to help themselves" through strengthening member interest in such organizations as the Nova Scotia Federation of Agriculture, the Nova Scotia Fruit Growers' Association, various agricultural co-operative organizations, credit unions and producer and marketing organizations.

New Brunswick.—Provincial government agricultural policy and programs in New Brunswick are administered and directed by the Department of Agriculture and Rural Development. Under the Minister of Agriculture and Rural Development, the Department is administered by a deputy minister, an assistant deputy minister and the directors of Branches concerned with: extension, livestock and dairying, veterinary services, poultry, horticulture, field husbandry, potato and plant protection, agricultural engineering, home economics, credit unions and co-operatives, agricultural education, and rural development.

Quebec.—Quebec agricultural policy is based on the principle that the commercial family farm is the ideal foundation for the rural social structure. It is therefore aimed at organized modernization of this type of operation. The provincial government, in conjunction with agricultural, co-operative and professional associations, seeks to increase agricultural productivity in the province by promoting the professionalization of farming, by up-dating production methods, by developing marketing procedures for farm products, and through rural development. Responsibility therefore is vested in the Department of Agriculture and Colonization operating under the authority of a minister and three deputy ministers.

The Production and Development Branch, under an assistant deputy minister, operates at the management level. Its activities are focused mainly on research, technical education, popularization of knowledge, land development, and animal and plant improvement and receive support from the Farm Credit Bureau which provides land and farm improvement loans. As a result of large-scale decentralization of provincial administration to 12 agricultural areas, farmers are receiving fast and diversified service.

Government, recognizing the importance of farm product marketing, has set up a Marketing Branch headed by a director general. This Branch is responsible for establishing quality standards for farm products and their control, wholesomeness of foodstuffs, farm product classification, fair sales practices, and for the promotion of modern processing and marketing techniques. In this field, the Department is assisted by the Agricultural Marketing Board.

These two Branches, whose function is to serve farm operators, receive guidance and support from a number of scientific and administrative services including an economics and planning service, a veterinary training service, a scientific information and publicity service, and a farm hydraulics service. Additional to this group of professional bodies is an integrated administrative service in charge of personnel, accounting, the payment of grants, property management, etc.

ARDA Quebec, which operates in a number of departments, is administered by an assistant deputy minister of the Department of Agriculture and Colonization. The government has enacted crop insurance legislation, administered by an *ad hoc* agency, to protect farmers against weather hazards. In addition, a sugar refinery and a blueberry freezing plant are operated under departmental management.

Ontario.—The Ontario Department of Agriculture and Food is administered by a deputy minister and two assistant deputy ministers. It provides financial assistance and administrative services through its Head Office, various Branches and a demonstration farm. The Dairy Branch provides an inspection, instruction and supervision service to all dairy factories and promotes the production of clean milk on farms. The Milk Commission, functioning under authority of the Milk Act, 1965, regulates and supervises the marketing of milk and cream. The Ontario Food Council, which operates as a separate Branch, deals with the problems of marketing and merchandising Ontario's agricultural food products and conducts a market-development program to increase sales at home and abroad. Some 20 local marketing boards, handling about 40 commodities, are supervised by the Farm Products Marketing Board. Crop insurance is provided for winter wheat, spring grains and forage crops by the Crop Insurance Commission.

Through a staff of agricultural representatives, one of whom is located in each county and district, the Extension Branch carries on an educational and extension service, and gives leadership to 4-H Club work and to the Ontario Junior Farmers' Association. It also assists farmers and settlers in northern Ontario in connection with land clearing and breaking and with improvement of farms and livestock. The Home Economics Branch gives leadership to organized activities of rural women. The Live Stock Branch promotes livestock improvement policies and gives support to purebred livestock associations. The Veterinary Services Branch administers the Community Sales Act, the Dead Animal Disposal Act, meat and livestock inspection and disease control, and provides diagnostic and extension services.

The Farm Economics, Co-operatives and Statistics Branch carries on research in farm business including cost analysis, marketing and land use; it assists co-operatives to operate sound businesses under the control of their members and administers the Co-operatives Loans Act and, in co-operation with the Dominion Bureau of Statistics, it gathers and publishes statistics of agricultural production. The Agricultural and Horticultural Societies Branch provides assistance to agricultural and horticultural fairs and exhibitions, ploughing matches and other competitions and administers the Community Centres Act. A Demonstration Farm in northern Ontario at New Liskeard demonstrates production methods adaptable to that area, present emphasis being on beef cattle. The Soils and Crops Branch assists in the development of good cultural practices, promotes the use of improved strains of seed, works for the improvement of pastures and administers the Weed Control Act.

Agricultural research in Ontario is conducted by the Ontario Research Institute and by the Ontario Agricultural College, the Ontario Veterinary College and Macdonald

Institute (three institutions which are now part of the University of Guelph), Western Ontario Agricultural School, Kemptville Agricultural College and the Horticultural Research Institute. The Ontario Research Institute, operated under a director who is responsible to the Deputy Minister, co-ordinates all research activities of the province, including those of the agricultural schools and colleges and, in addition, conducts an active research program in the interests of agriculture and industries associated with agriculture. The Horticultural Research Institute at Vineland and Simcoe is responsible for the integration of all horticultural research in the province.

Manitoba.—The Department of Agriculture serves Manitoba through the following branches and services.

The Extension Service deals with rural extension education generally and has specialists devoting attention particularly to agricultural engineering, entomology and beekeeping, radio, TV and information, 4-H Clubs and women's work, manpower and rural development. Meetings, field days, and short courses are held; 37 agricultural representatives and six assistants are located in 35 offices in the province, each serving from one to five municipalities, four manpower extension agents serve the Interlake region, and 14 home economists serve designated areas.

The Animal Industry Branch develops and administers policies that encourage the improvement and efficient production of different classes of livestock, including poultry, supervises the grading of cream and inspects dairy manufacturing plants. Several Acts to promote high quality products for consumer protection are administered in co-operation with federal departments.

The Soils and Crops Branch encourages the development, production and improvement of cereal, forage and special crops and horticulture and promotes proper land use through soil conservation programs. The Branch develops and administers policies that encourage good field crop husbandry, soil conservation and weed control.

The Economics and Publications Branch deals with agricultural economics, supervises the farm business clubs and publishes and distributes annually approximately 250,000 bulletins, circulars, posters, leaflets, etc. The Branch is responsible for publishing provincial agricultural statistics and maintains an agriculture reference library.

The Co-operative Services Branch registers and supervises co-operatives and credit unions and administers the Acts governing them. It also collects and compiles statistics on co-operative activity throughout the province.

The Veterinary Services Branch provides a diagnostic laboratory for animal diseases; administers the brucellosis control program, the Veterinary Services District Act and the Veterinary Science Scholarship Fund Act; and works in close co-operation with practising veterinarians and the federal Health of Animals Branch in the control of livestock and poultry diseases.

Saskatchewan.—The Saskatchewan Department of Agriculture is composed of the following branches and services.

The Agricultural Representative Branch has a technical staff of 55, which serves all branches of the Department as well as the other agencies operating within the Co-operative Agricultural Extension Program. Agricultural representatives are active in all federal, provincial and university farm services; they work through Agricultural Conservation and Improvement Committees in each rural municipality and local improvement district to supply the farmer with scientific and practical information and to develop district improvement programs. The Department pays one half the cost of local group development projects. In farm labour matters, co-operation is maintained with the federal Departments of Manpower and Immigration and of Labour.

The Production and Marketing Branch is comprised of three major divisions—Animal Industry, Plant Industry and Veterinary. The first two divisions provide specialist services to agriculture and agricultural representatives in field crops, weed and

insect control, soil conservation, horticulture, agriculture, livestock and poultry, and administer related Acts and programs. The Veterinary Division administers the Veterinary Service District Act and Calftlood Vaccination Program, provides laboratory services and co-operates with the Federal Government and local veterinarians in disease prevention and control.

The Conservation and Development Branch provides engineering services for irrigation development, usually in co-operation with the Federal Government, and for drainage programs and water utilization and control projects. Land reclamation and development and the construction of provincial community pastures also come within its jurisdiction.

The Lands Branch administers Crown land, except forest reserves and parks in settled areas, classifies it according to the use for which it is best suited and disposes of it under lease or sale. The Branch also secures land control for land utilization projects, supervises new settlement projects, pays for clearing and breaking by farmers on provincial leases, and operates provincial community pastures.

Farmers are assisted by the Family Farm Improvement Branch which gives technical advice at the farm on the construction of farm buildings and on farmstead planning, mechanization and materials handling. The Branch conducts research for farm water and sewage works and provides technical and financial assistance for their installation.

The Economics and Statistics Branch undertakes research and investigations required to formulate and evaluate policies and programs that will ensure a high level of growth and efficiency in Saskatchewan's agriculture; it collects, analyses and distributes economic information and principles to assist people interested in or engaged in agricultural pursuits. Data on crop conditions, production, marketings and income are available from the statistics Division. Farm information is dispensed daily over private radio stations, over TV stations and to the press by the Information Division.

Alberta.—The Alberta Department of Agriculture has seven Divisions. The Plant Industry Division administers programs and policies relating to crop improvement; crop protection and pest control; soils and soil conservation; weed control; horticulture; apiculture and special projects. A crop diagnostic service is offered through a Crop Clinic at Edmonton and horticultural services at a horticultural station at Brooks; a tree nursery at Oliver provides trees for farm planting.

The Animal Industry Division administers legislation, policies and programs in the broad area of livestock, dairy and poultry production and in processing and marketing, including: setting standards for and approving public sales of sires; sire purchase assistance; BOP programs for beef cattle, swine and sheep; extension programs for all classes of stock; administering standards and qualifications for the artificial insemination (AI) industry; supervising feeder associations; brand registration and inspection; licensing of butchers, livestock dealers, stockyards and AI technicians; pound districts and sale of horned cattle. The testing, grading and purchasing of raw produce by all dairy plants are under regulation, as are standards of construction, manufacture, processing, sanitation and temperature control for dairy and frozen-food plants. A regular cow-testing service to provide the basis for breeding, feeding and culling dairy cattle is available to dairy producers, and chemical and bacteriological analyses are conducted for industrial directives. Licences are issued to poultry hatcheries, wholesalers, first receivers and truckers and programs are conducted for control of pullorum-typhoid diseases of chicken- and turkey-hatching egg supply flocks; extension programs, cost studies, disease tests and surveys, and research projects with respect to poultry are also carried out.

The Veterinary Services Division provides diagnoses of livestock and poultry diseases and conducts investigations of disease conditions; provides lecture services for the University of Alberta and for other groups; promotes policies aimed at reducing losses such as brucellosis control, stockyard inspection, swine health programs, mastitis, etc.; and administers the licensing and exporting of live fur bearing animals and pelts and assists fur farmers in care, management and stock improvement.

The Extension Branch of the Agricultural Extension and Colleges Division operates 51 offices and employs 69 district agriculturists and 28 district home economists who supply information and guidance to farm families and promote progressive agriculture and home-making policies and programs. Their work is co-ordinated by seven regional agriculturists and is complemented by an expanding staff of regional specialists in livestock, plant industry, economics, engineering, and home economics. The field staff directly supervise the program for 526 4-H clubs with 1,917 adult leaders. Five broadcasts are conducted each week over ten radio stations and weekly and daily press material is issued to radio, TV and the press; publications are supplied to the rural public and visual aids are provided for department staff members. Agricultural and vocational colleges are operated at Olds, Vermilion and Fairview, all three offering five courses in agriculture: a general course, or majors in plant science, animal science, agricultural mechanics, and farm management. They also offer a complete business course and a short course in land appraisal and assessment. Special courses include horticulture, fashion and design, and irrigation technology at Olds; home economics and AI technician training at Vermilion; and motor mechanics and welding at Fairview.

The Agricultural Economics Division provides extension information on farm management, credit and marketing to aid farmers in instituting good business practices on the farm; collects, analyses and disseminates agricultural statistics in collaboration with the Dominion Bureau of Statistics; conducts studies on farm production costs and returns, marketing, and resource and rural development; and provides advisory assistance on economic matters to government departments, the agricultural industry and farm groups. Credit is made available to farmers for the purchase of land under the Farm Purchase Credit Act and for home improvements under the Farm Home Improvement Act.

The Water Resources Division administers legislation involving the use of water by individuals and organizations within Alberta. Division engineers construct drainage, irrigation, water supply, river control and erosion control projects when it is in the public interest to do so. Staff agrologists are concerned with land levelling for irrigation purposes and assist in land development planning and on farm utilization of water resources. Alberta's large-scale water conservation and utilization program is a direct responsibility of the Division and includes general groundwater inventories and exploration for groundwater supplies for community use. The Prairie Rivers Improvement and Management Evaluation (PRIME) embodies major water diversion and storage areas and is the most recent and largest of the long-term water conservation projects undertaken by the Division.

The Program Development Division administers the provincial ARDA program, the lands and forest land utilization program, research liaison with the University of Alberta, agricultural liaison on water resource development, trusteeship of the Lethbridge North and United Irrigation Districts, provides agricultural representation on the Highway Traffic Board, etc. The Agricultural Products Marketing Council establishes and regulates marketing boards and commissions which assist in the marketing of agricultural products. The Division assists with the development and organization of agricultural programs by local government and is developing a new policy for the administration, operation, maintenance and reconstruction of irrigation projects and districts in the province.

British Columbia.—The Department of Agriculture comprises three Divisions: General Administration, General Services, and Production and Special Services. General Administration is responsible for the direction of policies affecting farmers' institutions, institutional farms, personnel and publications. The General Services Division includes the Agricultural Rehabilitation and Development Act (ARDA), Crop Insurance, Farm Economics, and Markets and Statistics Branches. The Production and Special Services Division includes all other Branches—Agricultural Development and Extension, Apiary, Dairy, Entomology and Pest Control, Field Crops and Soil Testing, Horticulture, Plant Pathology, Poultry, Soil Survey, and Veterinary and Livestock.

The Agricultural Development and Extension Branch offers general information services to farmers through 17 offices located in all major farming districts. In addition, the Branch provides agricultural engineering service and supervision of the 4-H Clubs and government land-clearing programs. The Horticulture Branch serves the fruit, vegetable and allied industries through nine branch offices. The Veterinary and Livestock Branch administers regulations pertinent to livestock production and marketing and provides veterinary services, brands inspection and associated dairy herd improvement services at 10 locations throughout the province.

Subsection 2.—Agricultural Schools, Colleges and Universities

All of the provinces of Central and Western Canada have agricultural colleges in association with universities that give courses leading to degrees in agricultural science and home economics and also provide postgraduate courses; Ontario, Quebec and Saskatchewan have veterinary colleges. In addition, all of these provinces have schools of agriculture or diploma courses that provide basic training for young people intending to return to farms or interested in employment in businesses allied with agriculture.

In the Maritime Provinces, training in scientific agriculture is available at colleges in Prince Edward Island and Nova Scotia where courses leading to third-year admission to degree courses elsewhere are given. Vocational and short courses are available in all three provinces. All colleges of agriculture engage in research and extension activities.

Section 4.—Statistics of Agriculture*

The collection, compilation and publication of statistics relating to agriculture is a responsibility of the Dominion Bureau of Statistics. Valuable information is obtained through the Censuses of Canada, through partial-coverage mailed questionnaire surveys and from the administrative records of government operations. Limited statistics from the 1966 Census of Agriculture are presented in Section 5 of this Chapter, pp. 526-533.

The Bureau collects and publishes primary and secondary statistics of agriculture on an annual and monthly basis. The primary statistics relate mainly to the reporting of crop conditions, crop and livestock estimates, wages of farm labour and prices received by farmers for their products. The secondary statistics relate to farm income and expenditure, per capita food consumption, marketing of grain and livestock, dairying, milling and sugar industries and cold storage holdings. In the collection of annual and monthly statistics, the Canada Department of Agriculture and various provincial departments, as well as such agencies as the Board of Grain Commissioners and the Canadian Wheat Board, contribute statistical data to the Bureau and aid directly in DBS survey work. Many thousands of farmers throughout Canada send in reports voluntarily and dealers and processors also provide much valuable data. The figures contained in this Section do not include estimates for Newfoundland; agriculture plays a relatively minor part in Newfoundland's economy and commercial production of most agricultural products is quite small. In the following Subsections, details are given for 1966 with earlier comparisons; figures for the latest year are subject to revision and it should be noted that many of those given for earlier years have been revised since the publication of the 1967 Year Book.

Subsection 1.—Income from Farming Operations

Cash Receipts from Farming Operations.—Estimates of cash receipts from farming operations include data concerning cash receipts from the sale of farm products, Canadian Wheat Board participation payments on previous years' grain crops, net cash advances on farm-stored grains in Western Canada, deficiency payments made by the Agricultural Stabilization Board, and supplementary payments. Farm cash receipts

* Revised in the Agriculture Division, Dominion Bureau of Statistics.

from the sale of farm products include the returns from all sales of agricultural product except those associated with direct inter-farm transfers. The prices used to value all products sold are prices to farmers at the farm level; they include any subsidies, bonuses and premiums that can be attributed to specific products but do not include storage, transportation, processing and handling charges which are not actually received by farmers.

Total cash receipts from farming operations for 1966, excluding supplementary payments, are estimated at \$4,232,200,000 for Canada, excluding Newfoundland. This estimate is the record high to date; it is 11.2 p.c. above the previous record of \$3,805,500,000 set in 1965 and 28.4 p.c. above the average for the five years 1961-65. Returns from nearly all the contributing items were up in 1966 but the most significant increases were recorded for wheat and cattle. Offsetting the gains to some extent were reduced cash receipts from the sale of potatoes and smaller Canadian Wheat Board payments. Total cash receipts increased in all provinces except Prince Edward Island and New Brunswick where income from potatoes declined significantly as a result of lower prices.

7.—Cash Receipts from Farming Operations (excluding Supplementary Payments)¹, by Province, 1963-66

Province	1963	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000
Prince Edward Island.....	25,299	31,674	40,629	36,412
Nova Scotia.....	47,399	46,735	51,487	55,510
New Brunswick.....	40,901	47,458	60,397	53,710
Quebec.....	453,902	459,330	509,231	500,610
Ontario.....	996,936	1,020,275	1,103,600	1,232,210
Manitoba.....	268,620	297,578	340,488	373,410
Saskatchewan.....	692,114	836,317	880,703	945,110
Alberta.....	523,313	597,792	653,364	754,710
British Columbia.....	149,397	153,747	165,620	190,110
Totals.....	3,197,881	3,490,896	3,805,519	4,232,200

¹ See text below.

In addition to the above income, farmers received supplementary payments amounting to \$41,300,000 in 1966 as against \$12,800,000 in 1965. It should be noted that these payments include only those made under the provisions of the Prairie Farm Assistance Act and other government assistance to farmers who suffered losses as a result of adverse weather conditions; supplementary support payments to dairy producers made under the provisions of federal and provincial dairy support programs are not included in this item but are added to the total cash receipts from farming operations. Thus, farm cash receipts from farming operations plus supplementary payments totalled \$4,273,600,000, figure 11.9 p.c. above the previous record high of \$3,818,300,000 attained in 1965.

Field Crops.—During 1966, farmers' total returns from the sale of field crops, cash advances on farm-stored grains in Western Canada, and Canadian Wheat Board payments amounted to \$1,775,100,000, a figure 8.6 p.c. above that of \$1,635,100,000 for 1965. This estimate of total field crop returns for 1966 accounted for 41.9 p.c. of farmers' total cash receipts from farming operations, as compared with 43.0 p.c. a year earlier.

Farmers' returns from wheat at time of delivery increased more than returns from any other commodity considered in farm cash receipts. From \$658,800,000 in 1965, returns rose to \$803,100,000, largely as a result of higher marketings. Returns to growers from oilseed crops also moved sharply upward, particularly those from flaxseed and rapeseed. Higher marketings of flaxseed brought total receipts up to \$63,000,000 from \$47,200,000 in 1965 and increased marketings and higher prices for rapeseed resulted in returns of \$43,800,000 compared with \$26,800,000 in the previous year. Returns to tobacco growers totalled \$117,700,000, well above the \$88,400,000 of 1965, reflecting increased production.

* Payments to farmers under the provisions of the Prairie Farm Assistance Act are made from the Prairie Farm Emergency Fund to which farmers contribute by means of a 1-p.c. levy on grain marketings.

and substantially higher prices. Returns from most of the other field crops were also above the 1965 levels. However, cash receipts from potatoes were down from \$104,300,000 in 1965 to \$80,500,000 because a marked decline in prices more than offset higher production and heavier marketings. A further offset to the generally higher returns was the lower total participation payments made by the Canadian Wheat Board, which amounted to \$229,200,000 as against \$296,800,000 in 1965.

Livestock and Livestock Products.—Total cash receipts from the sale of livestock and livestock products amounted to \$2,342,800,000 in 1966, nearly 11 p.c. above the 1965 level of \$2,114,200,000. This estimate represents 55.4 p.c. of total cash receipts from farming operations. Returns from cattle and calves totalled \$886,600,000 which was an increase of 14.8 p.c. above the 1965 estimate, and those for hogs totalled \$422,200,000, an increase of 11.5 p.c. Both increases resulted from substantially higher prices.

Cash receipts from the sale of dairy products (exclusive of supplementary support payments) totalled \$581,900,000 in 1966 compared with \$559,600,000, in 1965; when supplementary payments are added, the figures are \$650,300,000 and \$576,500,000, respectively. The continued expansion in poultry meat production was reflected in further gains in total cash receipts from this commodity. Egg prices averaged considerably higher in 1966 than in 1965, which more than made up for the decline in marketings to give a total return of \$163,000,000 compared with \$145,000,000 in 1965.

8.—Cash Receipts from Farming Operations, by Commodity or Other Source, 1963-66

Item	1963	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000
Wheat.....	597,705	738,464	658,802	803,086
Wheat, Canadian Wheat Board payments.....	123,968	199,744	271,974	200,151
Oats.....	45,420	33,207	31,758	36,188
Oats, Canadian Wheat Board payments.....	—	10,673	4,707	6,851
Barley.....	67,907	72,129	78,931	82,522
Barley, Canadian Wheat Board payments.....	—	14,092	20,093	22,218
Canadian Wheat Board net cash advance payments.....	11,203	-12,123	5,597	-4,667
Rye.....	7,693	8,030	9,489	15,194
Flaxseed.....	37,320	60,957	47,223	62,970
Rapeseed.....	11,730	17,957	26,772	43,838
Soybeans.....	13,463	19,051	14,120	19,813
Corn.....	15,473	21,995	28,174	31,132
Sugar beets.....	26,138	19,891	12,005	12,179
Potatoes.....	49,882	64,909	104,311	80,501
Fruits.....	66,433	73,491	64,202	75,481
Vegetables.....	74,108	79,417	80,627	83,822
Tobacco.....	112,954	97,635	88,404	117,664
Other crops.....	78,917	81,179	87,463	86,124
Totals, Cash Receipts from Crops.....	1,340,314	1,600,738	1,635,052	1,775,067
Cattle and calves.....	631,495	640,507	772,585	886,562
Hogs.....	306,646	321,574	378,754	422,193
Sheep and lambs.....	9,715	9,419	9,434	9,483
Dairy products.....	509,803	533,920	559,588	581,900
Poultry.....	168,754	175,555	194,608	229,429
Eggs.....	148,381	132,566	145,000	162,991
Other livestock and products.....	44,742	43,835	54,225	50,235
Totals, Cash Receipts from Livestock and Products..	1,819,536	1,857,376	2,114,194	2,342,793
Forest and maple products.....	35,756	31,223	32,944	37,560
Dairy supplementary payments.....	—	—	16,912	68,400
Deficiency payments.....	2,275	1,559	6,417	8,410
Totals, Cash Receipts, excl. Supplementary Payments.....	3,197,881	3,490,896	3,805,519	4,232,230
Supplementary payments ¹	14,769	8,477	12,762	41,345
Totals Cash Receipts.....	3,212,650	3,499,373	3,818,281	4,273,575

¹ See text on page 494.

Net Income of Farm Operators from Farming Operations.—Two different estimates of net income from farming operations are prepared by the DBS. One is called *realized net income* and is obtained by adding together cash income from farming operations, supplementary payments and the value of income in kind, and deducting farm operating expenses and depreciation charges. This estimate of farm net income represents the amount of income from farming that operators have left for family living or investment after provision has been made for operating expenses and depreciation charges. The second estimate is referred to as *total net income* and is obtained by adjusting realized net income to take into account changes occurring in inventories of livestock and stocks of grains on farms between the beginning and the end of the year. The latter estimate is the one used to calculate the contribution of agriculture to national income.

For the year 1966, it is estimated that realized net income of farm operators from farming operations amounted to \$1,786,600,000. This estimate is 17.5 p.c. above the 1965 level of \$1,521,000,000 and 11.4 p.c. above the previous record of \$1,603,900,000 set in 1951. During 1966, record-high farm cash receipts together with increased income in kind and supplementary payments more than offset increased farm operating expenses. Changes from 1963 to 1966 in these items are covered in Table 9. Income in kind, which is the value of farm consumption of home-produced farm products plus an imputed rental value of the farm dwelling, totalled \$469,600,000 in 1966 as against \$432,000,000 for 1965. This increase was due largely to a higher total imputed rental value of farm homes and, to a lesser extent, to an increase in the value of consumption of meat and poultry products.

During 1966, total operating expenses and depreciation charges reached a new high level of \$2,956,500,000, a figure 8.3 p.c. higher than the estimate of \$2,729,300,000 for 1965. Nearly all items considered in the estimates of farm operating expenses were higher in 1966. Expenditure on feed recorded the greatest increase at \$525,500,000; it was well above the outlay of \$459,200,000 in 1965 as a result of increased use of prepared feeds and higher prices. Costs of operating farm machinery continued to move up because of increased fuel expenditures and greater outlays for repairs. The growing importance of fertilizer as an item of farm expense is reflected in the increase in the outlay for this item from \$138,800,000 in 1965 to \$164,100,000 in 1966; the increase was particularly marked in the Prairie Provinces. Interest payments on farm indebtedness continued to move up as farmers made greater uses of credit sources available to them. The farm labour force declined during 1966 but wages reached new high levels.

Total farm net income amounted to \$1,977,900,000 in 1966, an increase of 26.4 p.c. over the 1965 total of \$1,565,200,000 and slightly higher than the previous record of \$1,931,400,000 established in 1951. Farm inventories of grains in the Prairie Provinces increased substantially between the beginning and the end of the year as a result of the record crop production. The lower cattle population in 1966 was offset by increased numbers of hogs and poultry on farms.

9.—Net Income of Farm Operators from Farming Operations, by Item and by Province, 1963-66

(Exclusive of Newfoundland)

NOTE.—Includes estimated rental value of farm homes, supplementary payments made under the provisions of the Prairie Farm Assistance Act and payments under the Western Grain Producers' Acreage Payment Regulations.

Item	1963	1964	1965	1966
Item	\$'000	\$'000	\$'000	\$'000
1. Cash receipts from farming operations.....	3,197,881	3,490,896	3,805,519	4,232,230
2. Income in kind.....	375,062	396,373	432,016	469,558
3. Supplementary payments.....	14,769	8,477	12,762	41,345
4. Realized gross income (Items 1+2+3).....	3,587,712	3,895,746	4,250,297	4,743,133
5. Operating and depreciation charges.....	2,382,226	2,519,879	2,729,332	2,956,494
6. Realized net income (Items 4-5).....	1,205,486	1,375,867	1,520,965	1,786,639
7. Value of inventory changes.....	289,943	-94,904	44,280	191,236
8. Total gross income (Items 4+7).....	3,877,655	3,800,842	4,294,577	4,934,369
Totals, Net Income (Items 8-5).....	1,495,429	1,280,963	1,565,245	1,977,875

9.—Net Income of Farm Operators from Farming Operations, by Item and by Province, 1963-66—concluded

Province	1963	1964	1965	1966
Province	\$'000	\$'000	\$'000	\$'000
Prince Edward Island.....	7,854	12,645	15,529	14,868
Nova Scotia.....	18,283	16,527	18,863	20,032
New Brunswick.....	11,085	17,093	24,310	21,078
Quebec.....	144,828	132,913	136,956	190,267
Ontario.....	313,044	303,070	355,939	462,486
Manitoba.....	106,387	157,659	167,866	169,132
Saskatchewan.....	539,349	330,596	480,467	622,950
Alberta.....	285,405	239,789	293,073	383,859
British Columbia.....	69,194	70,671	72,242	93,203

Subsection 2.—Volume of Agricultural Production

In 1966 the index of physical volume of agricultural production for Canada reached a new high level of 182.8 (1949=100), being 12.8 p.c. above the previous record of 162.0 reached in both 1963 and 1965. A large part of the increase over 1965 may be attributed to the record-breaking wheat crop produced in 1966. Production of potatoes, livestock and poultry meat was also higher in 1966 but the contribution of these products to total output was well below that for wheat. Little change occurred in the output of vegetables and dairy products but the production of eggs was down.

All provinces except Manitoba contributed to the increase in agricultural production in 1966, the advances ranging from 31.1 p.c. in Saskatchewan to 4.3 p.c. in Quebec. The gains of 31.1 p.c. and 14.6 p.c., respectively, in Saskatchewan and Alberta reflected the exceptionally large crop production, particularly wheat, and also an increased output of livestock. The increase of 10 p.c. in British Columbia was attributable to a substantial advance in fruit production and modest gains in the output of potatoes, livestock, poultry and dairy products. Farmers in Prince Edward Island and New Brunswick increased their production by about 9 p.c.; potatoes and hogs accounted for most of the gain on the Island and potatoes and poultry meat were the most important contributors in New Brunswick. Production in Nova Scotia rose by nearly 5 p.c., for the most part due to increased output of potatoes, hogs and poultry products. In Ontario, gains in the production of potatoes, tobacco, livestock and poultry products were the most important contributors to the over-all gain of 5 p.c. in agricultural output. The 4.3-p.c. increase in Quebec was largely attributable to higher production of livestock, poultry meat, dairy and maple products. The slight decrease in the Manitoba index—from 164.1 in 1965 to 163.2 in 1966—was caused by lower output of oats and flaxseed.

The index of physical volume of agricultural production is a measure of unduplicated gross farm production. In its construction, provision has been made to avoid double counting of farm output. Within a province, such double counting occurs when feed grains, credited to field crop production, are fed to livestock and appear later as livestock and livestock products. Interprovincially, this duplication occurs when feed grains produced in one province are fed in another, and when feeder cattle raised in one section of the country are shipped to another for finishing.

During 1966, the index of farm production for 1935 and subsequent years was revised and converted from a weight base of 1947-51=100 to 1949=100 so as to further facilitate comparison with other DBS production indexes constructed on the same base. The revisions involved the introduction of the quantity data recently used to revise estimates of farm cash receipts from the sale of farm products, farm income in kind, and value of changes in year-end inventories of field crops and livestock. The weight base of 1949=100 now coincides with the time base.

10.—Index Numbers of Physical Volume of Agricultural Production, by Province, 1957-60

(1949=100. Exclusive of Newfoundland)

NOTE.—For a description of the index, methods and coverage, see DBS publication *Index of Farm Production 1962* (Catalogue No. 21-203). The index numbers in this table have been revised since the publication of the 1961 Year Book; see text on p. 497.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1957.....	99.8	110.9	88.5	117.9	115.4	103.6	118.8	130.7	116.7	117.0
1958.....	98.7	109.4	85.7	123.8	128.0	127.0	124.2	150.4	120.2	128.5
1959.....	90.5	111.4	80.0	123.8	121.7	120.0	128.3	154.9	126.6	127.5
1960.....	89.2	112.3	84.7	124.1	122.8	123.0	160.0	146.3	130.7	133.5
1961.....	93.0	118.9	87.1	133.3	134.1	83.6	73.9	144.9	139.2	116.5
1962.....	94.0	124.2	89.3	142.4	139.5	146.3	165.3	157.4	148.0	147.0
1963.....	94.4	126.4	86.7	142.7	140.5	127.4	221.6	182.0	149.3	162.0
1964.....	103.9	125.1	92.1	143.2	146.8	155.6	149.1	174.7	163.9	150.5
1965.....	97.0	125.8	90.5	147.8	148.4	164.1	183.7	187.9	156.9	162.0
1966.....	105.9	131.9	98.4	154.2	156.0	163.2	240.8	215.3	173.1	182.1

Subsection 3.—Field Crops*

The weather was generally favourable to field crop production in many parts of Canada during 1966. In the Prairie Provinces soil moisture reserves were excellent at seeding time and after some delays, particularly in the flooded Red River Valley, seeding progressed rapidly from mid-May onward. Although June precipitation was light, rainfall later in the season improved growing conditions except in the northern parts of Alberta and Saskatchewan where dryness adversely affected out-turns. Fine weather in early September permitted uninterrupted harvesting in all but northern regions where wet conditions caused delay but by mid-October the bulk of the crop had been taken off. Losses from plant diseases and other causes were minimal. The highlight of the season was the record crop of wheat, most of which fell in the top three grades.

In the Central Provinces, the Maritimes and British Columbia, the progress of seeding spring grains was normal. In Ontario and parts of Quebec, low temperatures slowed crop development and mid-season drought affecting much of Ontario and western Quebec reduced yields of spring-sown grains. The Ontario winter wheat crops, however, escaped the effects of drought and record yields were obtained. In the Maritimes, yields and quality were good for the spring grains, hay and most other crops. In British Columbia cool weather reduced the out-turn of early season crops but midway in the growing season warm weather stimulated plant growth to produce above-average crops. In the Peace River Block, unfavourable weather up to mid-season resulted in only fair to average yields.

The index of field crop production (1949=100) reached a record 203.0 in 1966, well above both the 1965 level of 171.8 and the previous high of 176.5 achieved in 1963. The Saskatchewan index rose to 274.2 from 212.8 in 1965 and exceeded the former record of 249.5 reached in 1963; the Alberta index reached a record 252.1 compared with 214.1 in 1965; the British Columbia index was 155.9 compared with 133.4 in 1965, the previous high; in Manitoba, smaller out-turns, mainly of oats and oilseed crops, resulted in an index level of 159.5 compared with the 1965 high of 172.5. In Eastern Canada the indexes were up for all provinces from year-earlier levels due principally to larger out-turns of grain, hay and potato crops. Larger winter wheat, corn and soybean crops helped advance the Ontario index to a record 156.8 compared with 144.1 in 1965 and the previous high of 146.1 reached in 1964; the Quebec index of 128.2 was well above the 92.9 of 1965 but was short of the all-time high of 138.3 achieved in 1951. The 1966 indexes for Prince Edward Island, Nova Scotia and New Brunswick, with 1965 levels in brackets, were, respectively, record 117.1 (79.8); 70.6 (58.8); and 102.8 (84.3).

* The supply and disposition of the major Canadian grains is dealt with in Chapter XXI, Part I, Sect. 2, under the heading of "The Grain Trade, 1965-66".

Canada's 1966 wheat crop was estimated at a record 827,338,000 bu., 27 p.c. above the 1965 harvest of 648,917,000 bu. and 65 p.c. above the ten-year (1955-64) average of 501,928,000 bu. Average yield per acre was up by about 22 p.c. over 1965 and seeded acreage by 5 p.c. The average protein content of the 1966 crop of hard red spring wheat was 13.2 p.c. compared with 13.5 p.c. obtained in 1965 and the average of 13.6 p.c. for all Western Spring wheat crops for the period 1927-66.

Total supplies of Canadian feed grains (corn, oats, barley, rye, mixed grains and buckwheat) in the crop year 1966-67 were well above the previous crop year, reflecting a record crop of barley and increased production of grain corn and rye and higher opening stocks of barley and rye. Compared with 1965-66, supplies of oats (Aug. 1, 1966 carryover of 127,163,000 bu. plus the 1966 production of 374,678,000 bu.) were down 8 p.c., supplies of barley (carryover of 97,753,000 bu. plus a crop of 301,235,000 bu.) were up 32 p.c., and supplies of rye totalling 27,792,000 bu. were up 11 p.c. The 1966 record crop of mixed grains at 81,443,000 bu. was up from 74,170,000 bu. in 1965 and production of grain corn was at an all-time high of 65,211,000 bu. Net feed-grain supplies (total supplies less estimated exports, seed requirements and other domestic uses) amounted to 19,400,000 tons, 8 p.c. above the 1965-66 total of 18,000,000 tons and 19 p.c. above the ten-year (1955-64) average of 16,400,000 tons.

A record 26,049,000 tons of tame hay was produced in 1966, 23 p.c. more than in 1965. The 6,643,000 tons of fodder corn produced was also a record and was 29 p.c. higher than in the previous year. The 1966 oilseed crops of soybeans, rapeseed, mustard seed and sunflower seeds were all significantly larger. Potato production at 54,679,000 cwt. was up 18 p.c. over 1965; New Brunswick led the provinces with an output of 14,450,000 cwt., followed by Prince Edward Island, Ontario and Quebec with 10,776,000 cwt., 10,003,000 cwt. and 8,770,000 cwt., respectively. Field roots at 195,000 tons declined 34 p.c. from 1965 although the production of sugar beets showed a marginal increase to 1,167,000 tons from 1,142,000 tons.

11.—Acreages, Yields and Prices of Principal Field Crops 1964-66, with Average for 1959-63

(Exclusive of Newfoundland)

Crop and Year	Area	Yield per Acre	Pro-duction	Average Price	Total Value ¹	Crop and Year	Area	Yield per Acre	Pro-duction	Average Price	Total Value ¹
	'000 acres	bu.	'000 bu.	\$ per bu.	\$'000		'000 acres	bu.	'000 bu.	\$ per bu.	\$'000
Wheat—						Mixed Grains—					
Av. 1959-63	25,748	19.7	507,169	1.61	817,305	Av. 1959-63	1,466	44.1	64,609	0.85	55,201
1964	29,686	20.2	600,424	1.59	957,209	1964	1,431	46.4	66,395	0.86	57,379
1965	28,282	22.9	648,917	1.68	1,088,697	1965	1,506	49.3	74,170	0.88	65,414
1966	29,692	27.9	827,338	2	2	1966	1,767	46.1	81,443	2	2
Oats—						Flaxseed—					
Av. 1959-63	9,466	41.7	364,678	0.67	266,342	Av. 1959-63	1,956	9.3	18,280	2.99	54,711
1964	8,191	43.6	357,178	0.69	247,195	1964	1,978	10.3	20,313	2.94	59,768
1965	8,656	47.9	414,957	0.74	305,452	1965	2,320	12.6	29,254	2.71	79,228
1966	7,924	47.3	374,678	2	2	1966	1,918	11.5	22,020	2	2
Barley—						Potatoes—					
Av. 1959-63	6,344	28.6	181,662	0.88	159,681	Av. 1959-63	291	147.7	42,980	1.85	79,400
1964	5,455	30.6	166,816	1.00	166,249	1964	281	169.7	47,733	2.90	138,490
1965	6,038	35.5	214,555	1.03	221,199	1965	269	155.5	46,472	2.60	120,760
1966	7,461	40.4	301,235	2	2	1966	319	171.5	54,679	2	2
Rye—						Tame Hay—					
Av. 1959-63	586	17.1	10,014	1.03	10,285	Av. 1959-63	12,158	1.78	21,612	15.57	336,525
1964	680	18.0	12,220	1.04	12,659	1964	12,507	1.71	21,365	18.52	395,593
1965	746	22.4	16,695	1.05	17,533	1965	12,690	1.66	21,099	20.75	437,882
1966	726	23.7	17,220	2	2	1966	13,154	1.98	26,049	2	2

¹ Gross value of farm production; does not represent cash income from sales.

² Not available at time of going to press; will be published in one of the regularly scheduled crop reports and in the *Quarterly Bulletin of Agricultural Statistics* (Catalogue No. 21-003).

12.—Acreages, Production and Values of Principal Field Crops, by Province, 1965 and 1966, with Average for 1959-63

(Exclusive of Newfoundland)

Field Crop and Province	Area			Total Production			Gross Farm Value ¹	
	Average 1959-63	1965	1966	Average 1959-63	1965	1966	Average 1959-63	1965
	'000 acres	'000 acres	'000 acres	'000 bu.	'000 bu.	'000 bu.	\$'000	\$'000
Wheat	25,748	25,282	29,692	507,169	648,917	827,338	817,305	1,088,697
Prince Edward Island...	5	4	2	131	97	75	219	170
Nova Scotia.....	1	1	1	36	32	54	61	54
New Brunswick.....	2	6	4	66	167	134	111	292
Quebec.....	11	12	29	281	298	768	462	498
Ontario—								
Winter.....	481	362	341	16,712	13,358	15,200	26,190	22,041
Spring.....	18	14	22	428	365	627	645	602
Manitoba.....	2,916	3,240	3,255	60,600	79,000	79,000	98,394	130,350
Saskatchewan.....	16,596	18,500	19,405	312,800	400,000	537,000	508,860	680,000
Alberta.....	5,635	6,050	6,506	114,000	153,000	191,000	179,338	250,920
British Columbia.....	83	93	127	2,115	2,600	3,480	3,026	3,770
Oats	9,466	8,656	7,924	394,678	414,957	374,678	266,342	305,452
Prince Edward Island...	94	89	86	4,448	3,519	5,386	3,506	2,991
Nova Scotia.....	36	31	26	1,546	1,293	1,460	1,419	1,164
New Brunswick.....	103	86	73	4,281	3,461	3,666	3,446	2,942
Quebec.....	1,266	1,165	1,002	50,682	41,940	43,186	44,110	37,327
Ontario.....	1,780	1,580	1,219	91,523	89,744	59,243	70,117	70,898
Manitoba.....	1,527	1,525	1,530	56,200	74,000	64,000	33,690	52,540
Saskatchewan.....	2,164	1,920	1,838	79,000	94,000	93,000	46,174	64,860
Alberta.....	2,410	2,200	2,082	102,800	104,000	101,000	61,160	70,720
British Columbia.....	86	60	69	4,199	3,000	3,737	2,720	2,010
Barley	6,344	6,038	7,461	181,662	214,555	301,235	159,681	221,199
Prince Edward Island...	6	12	12	229	433	684	242	476
Nova Scotia.....	1	3	4	46	91	182	53	108
New Brunswick.....	3	3	6	119	117	249	136	146
Quebec.....	21	15	16	741	526	574	855	636
Ontario.....	85	140	265	3,623	6,888	11,236	3,763	7,783
Manitoba.....	814	601	875	20,600	22,000	28,000	18,206	23,100
Saskatchewan.....	2,162	1,750	2,255	56,800	65,000	96,000	48,816	67,600
Alberta.....	3,177	3,390	3,880	97,200	115,000	159,000	85,676	117,300
British Columbia.....	75	124	150	2,303	4,500	5,310	1,924	4,050
Fall Rye	487	642	623	8,705	14,883	15,214	8,969	15,642
Quebec.....	4	3	5	87	69	115	99	76
Ontario.....	65	50	47	1,526	1,275	1,309	1,624	1,402
Manitoba.....	90	148	98	1,855	3,340	2,344	1,938	3,474
Saskatchewan.....	193	263	328	3,030	6,000	7,600	3,119	6,240
Alberta.....	134	177	143	2,154	4,150	3,750	2,139	4,399
British Columbia.....	2	2	3	54	51	96	51	51
Spring Rye	99	103	103	1,308	1,810	2,006	1,316	1,891
Manitoba.....	4	3	3	66	60	56	64	62
Saskatchewan.....	70	77	70	920	1,300	1,400	927	1,352
Alberta.....	25	23	29	322	450	550	325	477
All Rye	586	746	726	10,014	16,695	17,220	10,285	17,533
Quebec.....	4	3	5	87	69	115	99	76
Ontario.....	65	50	47	1,526	1,275	1,309	1,624	1,402
Manitoba.....	94	151	100	1,921	3,400	2,400	2,002	3,536
Saskatchewan.....	262	340	398	3,950	7,300	9,000	4,046	7,592
Alberta.....	159	200	172	2,476	4,600	4,300	2,463	4,876
British Columbia.....	2	2	3	54	51	96	51	51
Peas	60	55	61	1,013	1,244	1,094	2,259	2,666
Quebec.....	2	3	1	41	66	30	165	304
Ontario.....	3	2	2	58	50	45	146	130
Manitoba.....	41	36	46	651	800	731	1,366	1,440
Saskatchewan.....	3	3	1	50	60	25	94	135
Alberta.....	7	8	8	126	215	191	291	538
British Columbia.....	4	3	2	88	53	72	197	119

¹ Values for 1966 not available at time of going to press; see footnote ², Table 11.

12.—Acreages, Production and Values of Principal Field Crops, by Province, 1965 and 1966, with Average for 1959-63—continued

Field Crop and Province	Area			Total Production			Gross Farm Value ¹	
	Average 1959-63	1965	1966	Average 1959-63	1965	1966	Average 1959-63	1965
	'000 acres	'000 acres	'000 acres	'000 bu.	'000 bu.	'000 bu.	\$'000	\$'000
Beans.....	66	86	118	1,271	1,986	2,932	5,135	8,703
Quebec.....	1	1	1	17	14	19	74	66
Ontario.....	65	85	117	1,254	1,972	2,913	5,061	8,637
Soybeans.....	228	265	279	6,014	8,030	9,012	13,646	21,681
Ontario.....	227	265	279	6,004	8,030	9,012	13,628	21,681
Buckwheat.....	59	53	55	1,307	863	1,164	1,516	975
New Brunswick.....	4	3	2	116	99	77	132	119
Quebec.....	19	16	16	467	222	416	545	266
Ontario.....	23	14	14	516	342	331	578	380
Manitoba.....	14	20	23	207	200	340	261	210
Mixed Grains.....	1,466	1,506	1,767	64,609	74,170	81,443	55,201	65,414
Prince Edward Island...	52	47	48	2,543	1,998	3,126	2,241	1,938
Nova Scotia.....	8	8	10	341	332	573	357	365
New Brunswick.....	7	8	10	300	318	475	291	334
Quebec.....	106	92	102	4,244	3,146	4,427	4,609	3,618
Ontario.....	723	740	845	38,474	44,178	40,898	32,951	38,877
Manitoba.....	134	146	184	3,988	6,000	6,845	3,144	5,100
Saskatchewan.....	109	125	153	3,034	5,000	6,671	2,238	4,050
Alberta.....	323	335	410	11,504	13,000	18,163	9,191	10,920
British Columbia.....	4	4	5	181	198	265	179	212
Flaxseed.....	1,956	2,320	1,918	18,280	29,254	22,020	54,711	79,228
Quebec.....	28	18	18	440	440	285	285	1,254
Ontario.....	21	24	14	362	379	215	1,063	970
Manitoba.....	703	1,350	1,107	6,480	16,200	10,000	19,136	43,578
Saskatchewan.....	783	560	429	6,620	7,300	6,000	19,856	19,856
Alberta.....	430	355	347	4,580	4,900	5,500	13,912	13,475
British Columbia.....	4	3	2	37	35	20	110	95
Rapeseed.....	507	1,435	1,525	8,024	22,600	25,800	15,686	54,360
Manitoba.....	30	145	170	472	2,400	2,100	977	5,880
Saskatchewan.....	293	555	731	4,612	10,700	12,700	8,734	25,680
Alberta.....	184	735	624	2,940	9,500	11,000	5,975	22,800
Sunflower Seed.....	36	68	53	28,573	29,225	39,270	1,228	1,726
Manitoba.....	30	48	43	21,924	26,400	34,480	695	1,584
Saskatchewan.....	..	16	7	..	2,475	3,350	..	124
Alberta.....	6	4	3	6,019	350	1,440	202	18
Mustard Seed.....	118	157	201	68,100	127,370	174,240	2,655	5,940
Manitoba.....	8	19	32	5,452	16,150	22,050	261	824
Saskatchewan.....	..	58	81	..	49,300	73,080	..	2,268
Alberta.....	76	80	88	40,000	61,920	79,110	1,606	2,848
Shelled Corn.....	466	752	789	31,159	59,648	65,211	39,103	77,527
Ontario.....	462	740	786	31,006	59,348	65,081	38,932	77,152
Manitoba.....	4	12	3	153	300	130	171	375
Potatoes.....	291	299	319	42,980	46,472	54,679	79,400	120,760
Prince Edward Island...	43	43	52	7,400	7,341	10,776	11,490	18,720
Nova Scotia.....	8	7	6	695	858	973	2,124	2,428
New Brunswick.....	50	57	65	9,597	11,280	14,450	13,640	24,816
Quebec.....	75	64	75	9,060	7,239	8,770	17,567	17,808
Ontario.....	51	56	52	9,035	10,584	10,003	15,654	30,164
Manitoba.....	19	26	24	1,637	3,100	3,062	2,521	8,370
Saskatchewan.....	13	12	8	804	970	619	1,736	2,764
Alberta.....	21	23	25	2,359	3,000	3,907	4,867	8,550
British Columbia.....	11	10	10	2,092	2,100	2,119	5,801	7,140

¹ Values for 1966 not available at time of going to press; see footnote ², Table 11.

12.—Acreages, Production and Values of Principal Field Crops, by Province, 1965 and 1966, with Average for 1959-63—concluded

Field Crop and Province	Area			Total Production			Gross Farm Value ¹	
	Average 1959-63	1965	1966	Average 1959-63	1965	1966	Average 1959-63	1965
	'000 acres	'000 acres	'000 acres	'000 tons	'000 tons	'000 tons	\$'000	\$'000
Field Roots.....	27	23	15	296	294	195	6,151	7,038
Prince Edward Island...	4	3	2	45	26	25	852	624
Nova Scotia.....	2	2	1	31	23	18	589	690
New Brunswick.....	2	2	1	21	16	14	373	392
Quebec.....	7	5	4	48	41	32	989	820
Ontario.....	12	12	7	152	188	106	3,348	4,512
Tame Hay.....	12,158	12,690	13,151	21,612	21,099	28,019	336,525	437,882
Prince Edward Island...	183	181	182	319	246	353	4,132	3,936
Nova Scotia.....	243	229	226	513	428	520	7,957	7,704
New Brunswick.....	297	275	243	562	412	474	8,144	7,210
Quebec.....	3,386	3,415	3,378	6,031	4,132	6,688	94,067	109,498
Ontario.....	3,279	3,100	3,418	6,983	5,456	7,896	101,584	135,309
Manitoba.....	971	1,090	1,065	1,564	1,850	2,098	23,263	30,525
Saskatchewan.....	1,017	1,112	1,246	1,343	2,075	2,131	20,576	33,200
Alberta.....	2,388	2,830	2,938	3,394	5,500	4,730	57,924	88,000
British Columbia.....	393	458	458	872	1,000	1,159	18,878	22,500
Fodder Corn.....	368	470	578	4,003	5,161	6,643	20,956	32,536
Quebec.....	53	60	74	581	629	922	3,698	4,403
Ontario.....	277	350	454	3,163	4,130	5,357	15,361	25,193
Manitoba.....	53	53	37	200	316	228	1,463	2,212
Saskatchewan.....	2	2	6	6	9	27	77	112
British Columbia.....	3	5	6	53	77	109	358	616
Sugar Beets.....	88	85	82	1,167	1,142	1,167	18,145	19,061
Quebec.....	8	9	8	105	160	130	1,546	2,932
Ontario.....	19	11	12	294	216	216	4,130	2,957
Manitoba.....	23	26	24	287	262	245	3,607	4,501
Alberta.....	39	39	38	532	504	576	8,861	8,671

¹ Values for 1966 not available at time of going to press; see footnote ², Table 11.

13.—Acreages and Production of Grain in the Prairie Provinces, 1962-66

Grain	1962	1963	1964	1965	1966
ACREAGES					
	'000 acres	'000 acres	'000 acres	'000 acres	'000 acres
Wheat.....	26,237	26,996	29,080	27,790	29,166
Oats.....	7,152	6,260	5,054	5,645	5,450
Barley.....	5,097	5,922	5,217	5,741	7,010
Rye.....	556	583	620	691	671
Flaxseed.....	1,396	1,629	1,916	2,285	1,883
Rapeseed.....	371	478	791	1,435	1,525
PRODUCTION					
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.
Wheat.....	546,000	703,000	578,000	632,000	807,000
Oats.....	322,000	304,000	206,000	272,000	258,000
Barley.....	158,000	213,000	157,000	202,000	283,000
Rye.....	10,400	11,180	10,700	15,300	15,700
Flaxseed.....	15,300	20,300	19,400	28,400	21,500
Rapeseed.....	5,860	8,360	13,230	22,600	25,800

Stocks of Canadian Grain.—Table 14 shows the stocks of Canadian grain on hand in Canada and in the United States on July 31 for the years 1964-66, with averages for the

five-year periods 1955-59 and 1959-63. Stocks in Canada are separated into those in commercial positions and those on farms. Stocks on farms and in country elevators in the Prairie Provinces are given separately.

14.—Carryover of Canadian Grain as at July 31, 1964-66, with Averages for 1955-59 and 1959-63

Grain and Year	Total in Canada and United States	Total in Canada	In Commercial Storage in Canada	On Farms in Canada	Prairie Provinces	
					On Farms	In Country Elevators
	bu.	bu.	bu.	bu.	bu.	bu.
Wheat—						
Av. 1955-59.....	617,264,667	616,947,244	401,923,244	215,024,000	211,600,000	235,770,759
Av. 1959-63.....	534,747,156	534,715,338	413,311,388	121,404,000	118,800,000	229,881,091
1964.....	459,440,128	459,440,128	338,800,128	120,640,000	118,000,000	193,860,624
1965.....	513,024,073	513,024,073	403,924,073	109,100,000	107,000,000	238,611,266
1966.....	420,122,308	420,122,308	320,122,308	100,000,000	98,000,000	179,518,503
Oats—						
Av. 1955-59.....	140,236,549	140,051,508	43,511,508	96,540,000	78,800,000	28,289,269
Av. 1959-63.....	115,060,916	115,060,916	32,260,916	82,800,000	59,800,000	21,654,577
1964.....	179,407,849	179,407,849	50,607,849	128,800,000	108,000,000	38,930,666
1965.....	130,120,562	130,120,562	39,420,562	90,700,000	68,000,000	23,648,678
1966.....	127,162,973	127,162,973	36,162,973	91,000,000	67,000,000	20,176,646
Barley—						
Av. 1955-59.....	118,906,634	118,783,588	60,532,588	58,251,000	56,000,000	37,528,726
Av. 1959-63.....	103,849,897	103,790,972	54,724,972	49,066,000	46,800,000	36,199,708
1964.....	118,270,178	118,270,178	58,270,178	60,000,000	58,000,000	37,713,677
1965.....	88,776,413	88,776,413	52,976,413	35,800,000	34,000,000	35,148,419
1966.....	97,752,538	97,752,538	64,752,538	33,000,000	31,000,000	44,347,245
Rye—						
Av. 1955-59.....	13,467,828	13,237,663	5,078,663	8,159,000	7,820,000	2,327,160
Av. 1959-63.....	6,107,678	5,878,314	3,462,314	2,416,000	2,276,000	1,601,364
1964.....	7,051,748	6,624,181	4,974,181	1,650,000	1,600,000	2,415,499
1965.....	8,301,805	7,927,959	6,227,959	1,700,000	1,700,000	2,556,448
1966.....	10,566,888	10,215,040	7,815,040	2,400,000	2,400,000	2,949,691
Flaxseed—						
Av. 1955-59.....	5,068,048	5,068,048	3,752,448	1,315,600	1,296,000	913,866
Av. 1959-63.....	5,636,883	5,636,883	4,472,883	1,164,000	1,150,000	1,346,491
1964.....	6,550,719	6,550,719	5,250,719	1,300,000	1,300,000	1,873,753
1965.....	7,141,165	7,141,165	6,141,165	1,000,000	1,000,000	2,256,167
1966.....	11,141,301	11,141,301	8,941,301	2,200,000	2,200,000	3,374,338

Subsection 4.—Livestock and Poultry

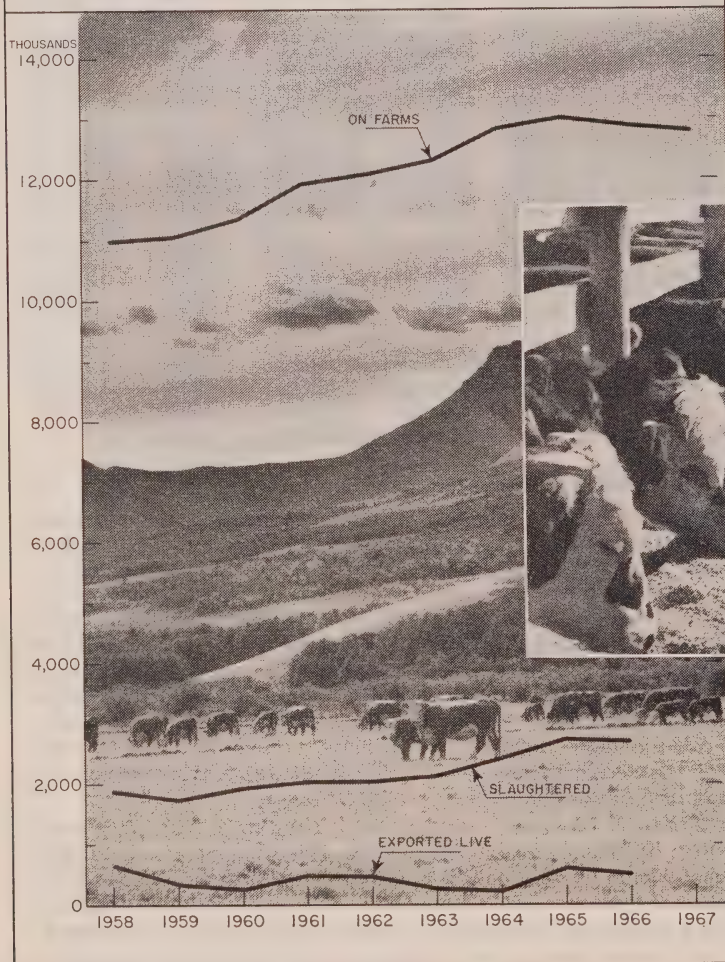
Livestock.—The livestock industry prospered in 1966. Although marketings were down, higher prices were received for all types of livestock, resulting in the highest dollar value ever reached from marketings through commercial channels. Exports remained high for cattle, calves and hogs but sheep exports were down by 50 p.c. There were 12,546,000 cattle and calves on farms in Canada (excluding Newfoundland and the Territories) at June 1, 1966, 455,000 fewer than in 1965. The number of beef cows declined to 2,768,800 from 2,870,800 in the previous year and the number of dairy cows declined from 2,885,000 in 1965 to 2,799,000 in 1966. Exports of cattle declined by almost 76,000 to 537,105, with slaughter and feeder cattle making up approximately 70 p.c. of the total. Imports of cattle and calves remained relatively low at 9,014. Prices were higher for all grades of cattle in 1966; the weighted average price for choice steers at all stockyards increased from \$24.40 in 1965 to \$26.10 in 1966.

There were 5,443,000 hogs on farms in Canada at June 1, 1966, about 6 p.c. more than in 1965 but still fewer than the estimated inventory in 1964. Live hog exports, at 12,683, were almost 47 p.c. higher than in 1965 but only 677 live hogs were imported. Marketings were 3.1 p.c. below those of the previous year, keeping prices at a record high; the weighted average price for grade A hogs at all stockyards in 1966 was \$35.05 per cwt. compared with \$31.00 in 1965.

The sheep-raising industry in Canada continued to decline in 1966. The number of sheep on farms at June 1 was 1,094,000, a decrease of more than 6 p.c. from the 1965 figure of 1,169,000. Live animals exported numbered 10,530 only about one half the number exported in 1965; imports, however, increased slightly from 18,284 to 19,465 in the same comparison. Sheep and lamb slaughtering in inspected plants were 20 p.c. lower than in the previous year.

Per capita disappearance of all red meats in 1966 was estimated at 148.8 lb., 1.2 lb. less than in 1965. The figures for individual meats were: beef 82.7 (81.7 in 1965); pork 47.7 (49.2); veal 7.0 (8.4); mutton and lamb 3.6 (2.8); offal 3.6 (3.6); canned meats 4.1 (4.3). All figures are on a cold dressed basis.

BEEF CATTLE ON FARMS, SLAUGHTERED AND EXPORTED, 1958-67



Both demand and price for choice cattle were favourable in 1967.

By the end of October 70,000 more cattle the two top grades had been marketed than the same period 1966 and at prices considerably higher than the export base

5.—Livestock on Farms and Average Value per Head, by Province, as at June 1, 1956, 1965 and 1966

(Exclusive of Newfoundland and the Yukon and Northwest Territories)

Province and Item	Livestock on Farms			Value per Head		
	1956	1965	1966	1956	1965	1966
	'000	'000	'000	\$	\$	\$
Prince Edward Island—						
Horses.....	14.6	4.8	4.3	91	145	140
Milk cows ¹	43.8	39.0	37.0	131	182	196
Other cattle.....	79.9	91.0	86.0	62	87	95
Sheep.....	33.4	16.0 [†]	15.0	15	15	16
Swine.....	46.7	70.0	73.0	25	28	35
Nova Scotia—						
Horses.....	17.9	6.1	5.6	119	187	193
Milk cows ¹	82.8	57.0	54.0	124	171	184
Other cattle.....	104.6	100.0	92.0	61	90	100
Sheep.....	83.2	44.0	40.0	15	13	15
Swine.....	32.7	62.0	68.0	26	27	33
New Brunswick—						
Horses.....	19.3	6.1	5.6	119	206	214
Milk cows ¹	85.6	56.0	51.0	130	163	175
Other cattle.....	98.0	94.0	84.0	58	86	95
Sheep.....	64.0	32.0	29.0	15	14	17
Swine.....	53.8	38.0	38.0	26	27	33
Quebec—						
Horses.....	163.5	71.0	66.0	148	210	210
Milk cows ¹	1,054.3	1,086.0	1,082.0	130	176	196
Other cattle.....	947.9	904.0	835.0	55	78	84
Sheep.....	338.6	133.0	122.0	14	15	16
Swine.....	887.1	932.0	1,030.0	25	30	35
Ontario—						
Horses.....	139.6	79.0	76.0	109	174	180
Milk cows ¹	1,025.9	943.0	917.0	155	221	249
Other cattle.....	1,875.8	2,401.0	2,317.0	93	124	137
Sheep.....	393.8	302.0	296.0	19	19	22
Swine.....	1,548.3	1,940.0	2,080.0	26	31	41
Manitoba—						
Horses.....	75.1	37.0	34.0	82	116	122
Milk cows ¹	223.0	176.0	167.0	141	189	207
Other cattle.....	648.5	974.0	922.0	86	119	134
Sheep.....	73.1	57.0	47.0	15	15	17
Swine.....	310.5	408.0	480.0	22	27	35
Saskatchewan—						
Horses.....	170.7	79.0	76.0	65	106	110
Milk cows ¹	272.2	178.0	160.0	140	193	215
Other cattle.....	1,596.8	2,162.0	2,093.0	90	126	143
Sheep.....	142.7	150.0	138.0	14	15	18
Swine.....	591.9	405.0	428.0	21	26	35
Alberta—						
Horses.....	154.6	92.0	89.0	64	112	119
Milk cows ¹	282.2	262.0	245.0	148	192	218
Other cattle.....	2,167.0	2,933.0	2,873.0	90	125	141
Sheep.....	404.8	355.0	333.0	16	15	19
Swine.....	1,211.5	1,245.0	1,208.0	23	27	36
British Columbia—						
Horses.....	26.8	23.0	23.5	77	139	144
Milk cows ¹	90.2	88.0	86.0	139	199	222
Other cattle.....	332.7	457.0	445.0	86	118	136
Sheep.....	86.1	80.0	74.0	17	18	19
Swine.....	48.4	36.0	38.0	27	29	38
Totals—						
Horses.....	782.1	398.0	380.0	95	146	150
Milk cows ¹	3,160.0	2,885.0	2,799.0	141	194	217
Other cattle.....	7,851.2	10,116.0	9,747.0	85	119	134
Sheep.....	1,619.7	1,169.0 [†]	1,094.0	16	16	19
Swine.....	4,730.9	5,136.0	5,443.0	24	29	38

¹ Cows and heifers, two years old or over, kept for milk purposes.

The Canada Department of Agriculture inspects all livestock in plants designated as inspected establishments under the Meat and Canned Foods Act. A record is kept of these inspections and figures from 1957 are given in Table 16. Local wholesale butchering and slaughterings carried out by retail butchers and by farmers for their own use are not included. Actually, the slaughtering and meat packing industry is concentrated in a comparatively small number of large establishments to facilitate greater efficiency and utilization of products; thus the figures of Table 16 are fairly inclusive.

Slaughterings of all types of livestock declined in 1966 over the previous year; slaughterings of cattle in inspected establishments were down about 1 p.c., of calves 14.4 p.c. of sheep and lambs more than 20 p.c., and of hogs about 3 p.c.

16.—Livestock Slaughtered at Inspected Establishments, 1957-66

(Exclusive of Newfoundland)

Year	Cattle	Calves	Sheep	Hogs
	No.	No.	No.	No.
1957.....	1,986,251	887,102	581,903	4,971,474
1958.....	1,889,280	784,767	548,976	5,963,979
1959.....	1,744,185	676,571	569,746	8,020,714
1960.....	1,941,703	712,100	562,678	6,182,333
1961.....	2,041,473	690,286	633,347	5,849,833
1962.....	2,028,159	710,229	567,463	6,031,933
1963.....	2,126,716	671,390	532,015	5,909,555
1964.....	2,422,260	750,319	497,686	6,627,611
1965.....	2,734,514	894,728	409,783	6,421,233
1966.....	2,705,139	765,596	327,621	6,129,633

Poultry.—Poultry on farms and their values in 1965 and 1966 compared with 1956 are given in Table 17; production and consumption of poultry meat are included in Table 18.

17.—Numbers and Values of Poultry on Farms, by Province, as at June 1, 1956, 1965 and 1966

Province and Year	Hens and Chickens		Turkeys		Geese		Ducks		All Poultry	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
	'000	\$'000	'000	\$'000	'000	\$'000	'000	\$'000	'000	\$'000
Newfoundland.....	..	..	..	..	..	..	..	..	..	..
Prince Edward Is...1956	812	795	14	33	9	22	5	7	840	8
1965	435	448	10	51	6	22	2	5	453	5
1966	355	400	5	28	5	20	2	4	367	4
Nova Scotia.....1956	1,909	2,600	54	165	3	8	2	3	1,668	2,7
1965	2,210	2,403	70	360	1	4	1	2	2,282	2,7
1966	2,478	2,733	38	182	1	3	1	2	2,518	2,9
New Brunswick.....1956	1,125	1,384	45	150	4	12	2	3	1,176	1,5
1965	1,150	1,346	31	161	1	3	1	2	1,182	1,5
1966	1,200	1,362	58	278	1	3	—	1	1,259	1,6
Quebec.....1956	10,882	12,157	632	2,023	12	37	45	69	11,571	14,2
1965	14,860	13,401	900	4,068	8	28	60	116	15,828	17,6
1966	16,530	11,027	1,230	5,437	7	27	66	131	17,833	18,6
Ontario.....1956	24,934	26,040	1,415	4,273	96	231	124	153	26,569	30,6
1965	23,665	23,294	3,400	16,286	55	217	140	287	27,260	40,0
1966	24,230	17,539	4,060	19,488	55	213	145	293	28,490	37,5

**17.—Numbers and Values of Poultry on Farms, by Province, as at June 1,
1956, 1965 and 1966—concluded**

Province and Year	Hens and Chickens		Turkeys		Geese		Ducks		All Poultry	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
	'000	\$'000	'000	\$'000	'000	\$'000	'000	\$'000	'000	\$'000
Manitoba.....1956	5,990	4,573	664	1,458	48	91	40	41	6,742	6,163
1965	5,820	4,456	1,000	3,760	100	291	40	67	6,960	8,577
1966	5,940	5,092	980	3,940	100	322	40	76	7,060	9,430
Saskatchewan.....1956	8,219	6,021	773	1,697	52	113	78	86	9,122	7,917
1965	5,300	3,412	770	2,888	30	97	50	95	6,150	6,492
1966	4,735	3,635	735	3,175	30	110	55	112	5,555	7,032
Alberta.....1956	9,444	7,146	820	1,956	86	184	99	110	10,449	9,396
1965	7,800	5,563	900	3,681	75	236	80	148	8,855	9,628
1966	8,310	6,248	835	3,791	75	256	80	165	9,300	10,460
British Columbia...1956	4,221	4,978	354	1,032	14	41	24	37	4,613	6,088
1965	6,200	6,459	525	2,678	8	31	25	52	6,758	9,220
1966	6,745	7,334	630	3,560	7	28	20	47	7,402	10,969
Totals.....1956	67,535	65,694	4,770	12,787	326	739	419	509	73,050	79,729
1965	67,440	60,785	7,608	33,933	284	929	399	774	75,729	96,421
1966	70,523	55,370	8,571	39,879	281	982	409	831	79,784	97,062

18.—Production and Domestic Disappearance of Poultry Meat, 1956, 1965 and 1966
(Eviscerated weight)

Year and Item	Net Production	Total Supply	Domestic Disappearance	Per Capita Consumption
	'000 lb.	'000 lb.	'000 lb.	lb.
1956				
Fowl and chickens.....	308,912	329,742	308,203	19.2
Turkeys.....	89,968	112,216	96,441	6.0
Geese.....	2,702	2,803	2,678	0.2
Ducks.....	2,885	4,001	3,802	0.2
Totals, 1956.....	404,467	448,762	411,124	25.6
1965				
Fowl and chickens.....	515,129	541,907	522,996	26.7
Turkeys.....	186,299	211,640	186,104	9.5
Geese.....	3,133	3,287	3,028	0.2
Ducks.....	4,974	7,108	6,805	0.4
Totals, 1965.....	709,535	763,942	718,933	36.7
1966				
Fowl and chickens.....	567,911	595,820	571,206	28.7
Turkeys.....	213,127	238,118	207,315	10.4
Geese.....	3,079	3,241	2,975	0.2
Ducks.....	5,096	7,239	6,719	0.3
Totals, 1966.....	789,213	844,418	788,215	39.6

Subsection 5.—Dairying

The average Canadian dairy herd has been increasing sharply in size but the total number of dairy cattle has been declining gradually for many years. The increase in output per cow has resulted in increased milk production every year since 1960, except for a slight decline in 1965. Milk production is concentrated in Central Canada, the provinces of Ontario and Quebec accounting for about 71 p.c. of the total quantity. Of the total output in 1966, 63 p.c. was used for factory-made dairy products, 29 p.c. was sold in fluid form and 8 p.c. was used for all purposes on farms.

19.—Production and Utilization of Milk, by Province, 1964-66

Province and Year	Milk Used in Manufacture		Milk Otherwise Used			Total Milk Production
	On Farms ¹	In Factories	Fluid Sales	Farm-Home Consumed	Fed on Farms	
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	..	..	..	..	..	..
Prince Edward Island.....1964	1,264	175,607	22,103	19,960	11,484	230,418
.....1965	889	181,715	21,817	19,750	9,581	233,752
.....1966	725	175,927	21,606	19,630	7,126	225,014
Nova Scotia.....1964	4,563	108,568	195,606	25,490	13,758	347,985
.....1965	3,229	108,611	197,929	25,080	11,437	346,286
.....1966	2,878	111,229	198,696	23,010	10,151	345,964
New Brunswick.....1964	5,148	172,387	151,232	24,720	10,025	363,512
.....1965	4,282	156,108	157,298	23,240	9,091	350,019
.....1966	3,978	138,743	158,649	22,360	8,000	331,730
Quebec.....1964	11,255	4,200,558	1,457,619	231,800	216,300	6,117,532
.....1965	7,699	4,175,390	1,454,647	214,900	212,040	6,064,676
.....1966	7,301	4,553,579	1,464,165	203,500	187,900	6,416,445
Ontario.....1964	9,360	4,256,662	2,029,426	197,000	302,800	6,795,248
.....1965	8,120	4,403,668	2,074,504	192,200	292,600	6,971,092
.....1966	6,949	4,234,506	2,096,987	189,500	270,400	6,798,342
Manitoba.....1964	11,349	594,132	248,718	92,220	64,150	1,010,569
.....1965	9,102	557,644	249,521	85,500	52,820	954,587
.....1966	7,184	497,204	247,558	84,340	49,150	885,436
Saskatchewan.....1964	34,936	602,413	191,283	156,300	82,530	1,067,462
.....1965	24,617	516,761	195,457	152,400	64,360	953,595
.....1966	20,639	456,089	196,941	150,800	56,100	880,569
Alberta.....1964	33,649	1,094,288	347,868	153,400	90,220	1,719,425
.....1965	26,653	1,015,921	361,377	142,900	94,370	1,641,221
.....1966	24,968	998,390	359,322	134,850	94,540	1,612,070
British Columbia.....1964	3,323	322,363	471,014	24,350	32,170	853,220
.....1965	2,948	296,997	493,001	23,330	28,450	844,726
.....1966	2,855	318,454	510,717	21,910	25,920	879,856
Totals.....1964	114,847	11,526,978	5,114,869	925,240	823,437	18,505,371
.....1965	87,539	11,412,815	5,205,551	879,300	774,749	18,359,954
.....1966	77,477	11,484,121	5,254,641	849,900	709,287	18,375,426

¹ Used in farm butter only.

29.—Farm Values of Milk Production, by Province, 1961-66

Province and Year	Value of Milk Used in Manufacture		Value of Milk Otherwise Used			Value of Total Milk Production
	On Farms ¹	In Factories	Fluid Sales	Farm-Home Consumed	Fed on Farms ²	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	..	..	..	..	..	..
Prince Edward Island.....	1964 29	4,356	917	577	872	6,751
1965 21	4,539	911	583	884	6,938	
1966 18	4,364	965	559	787	6,693	
Nova Scotia.....	1964 111	2,612	9,710	777	721	13,931
1965 77	2,650	9,934	772	621	14,054	
1966 70	2,746	10,666	683	545	14,710	
New Brunswick.....	1964 130	4,125	7,293	764	944	13,256
1965 110	3,789	7,625	723	828	13,075	
1966 102	3,326	8,101	686	796	13,011	
Quebec.....	1964 260	113,212	62,832	7,626	14,939	198,869
1965 184	124,795	65,203	7,027	15,269	212,478	
1966 187	133,520	69,997	5,942	15,111	224,757	
Ontario.....	1964 228	113,249	93,539	6,048	16,005	229,069
1965 198	122,749	96,466	5,535	16,667	241,615	
1966 175	120,324	105,306	5,306	15,987	247,098	
Manitoba.....	1964 276	13,321	10,371	2,388	3,630	29,986
1965 226	12,610	10,643	2,300	3,692	29,471	
1966 184	10,931	11,115	2,142	3,199	27,571	
Saskatchewan.....	1964 836	13,600	8,573	4,189	4,730	31,928
1965 589	11,704	9,192	4,100	3,863	29,448	
1966 512	9,724	9,749	3,921	3,532	27,438	
Alberta.....	1964 805	26,135	15,279	4,249	6,518	52,986
1965 638	24,272	16,040	3,644	6,276	51,170	
1966 608	23,195	16,805	3,560	6,035	50,203	
British Columbia.....	1964 77	8,670	26,000	762	1,314	36,823
1965 67	8,374	27,981	749	1,121	38,292	
1966 66	9,795	31,160	798	1,232	43,051	
Totals.....	1964 2,752	299,280	234,514	27,380	49,673	613,599
1965 2,110	315,482	243,995	25,733	49,221	636,541	
1966 1,922	317,925	263,864	23,597	47,224	654,532	

¹ Used in farm butter only.² Includes values of skim milk and buttermilk retained on farms.

In 1966 the output of butter continued the declining trend in evidence for a number of years. Creamery butter production has decreased 7.6 p.c. since 1962 and farm-made butter has shown a much more significant change, dropping 50 p.c. in the same period. The 1966 output of creamery butter, which amounted to 334,000,000 lb., accounted for 7,819,000,000 lb. of milk or 42.6 p.c. of the national milk output and 69.0 p.c. of the milk used in dairy factory products. The production of farm butter accounted for only 77,000,000 lb. of milk or 0.4 p.c. of the national output. Per capita consumption of creamery butter was 17.42 lb. in 1966 compared with 18.17 lb. in 1965.

Cheese output, on the other hand, has moved gradually upward over the past 11 years, particularly in Ontario and Quebec; these two provinces accounted for 95.4 p.c. of the total output in 1966. The total Canadian production in that year amounted to about 194,000,000 lb., which represented approximately 2,128,000,000 lb. of milk or 11.6 p.c. of the total milk production. Exports of all cheese, mostly cheddar, amounted to 35,949,000 lb. in 1966 compared with 32,055,000 lb. in 1965.

21.—Production of Butter and Cheese, by Province, 1964-66

Province and Year	Butter				Cheese
	Creamery	Dairy	Whey	Total	Factory ¹
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	..	..	..	..	..
Prince Edward Island.....	1964 5,726	54	34	5,814	1,614
	1965 5,884	38	49	5,971	1,714
	1966 5,189	31	50	5,270	1,673
Nova Scotia.....	1964 3,012	195	—	3,207	—
	1965 3,000	138	—	3,138	—
	1966 2,881	123	—	3,003	565
New Brunswick.....	1964 6,426	220	—	6,646	654
	1965 5,719	183	—	5,902	610
	1966 4,848	170	—	5,018	615
Quebec.....	1964 133,474	481	1,860	135,815	67,008
	1965 131,611	329	1,920	133,860	69,346
	1966 141,199	312	1,994	143,505	79,550
Ontario.....	1964 109,731	400	2,608	112,739	87,837
	1965 107,922	347	2,689	110,958	102,655
	1966 103,416	297	2,933	106,646	105,528
Manitoba.....	1964 23,563	485	—	24,048	944
	1965 21,806	389	—	22,195	1,145
	1966 18,870	307	—	19,177	1,441
Saskatchewan.....	1964 25,224	1,493	—	26,717	—
	1965 21,700	1,052	—	22,752	—
	1966 19,031	882	—	19,913	—
Alberta.....	1964 39,818	1,438	5	41,261	2,579
	1965 36,562	1,139	4	37,705	2,291
	1966 34,543	1,067	5	35,615	2,442
British Columbia.....	1964 4,768	142	—	4,910	1,058
	1965 3,177	126	—	3,303	1,094
	1966 4,154	122	—	4,276	1,440
Totals.....	1964 351,742	4,908	4,507	361,157	161,964²
	1965 337,331	3,741	4,662	345,784	179,136²
	1966 334,130	3,311	4,982	342,423	193,863²

¹ Factory-made cheese includes cheddar and other cheese made from whole milk and cream. ² Amounts for "other cheese" are included in Quebec, Ontario and Alberta figures but, as fewer than three firms reported in the other provinces, data cannot be included except in the Canada total.

Concentrated milk products, which comprise a large group of both whole milk and skim milk products, are moving in opposite utilization trends. The amount of milk going into whole milk products—evaporated milk, dry whole milk, partly skimmed concentrated products, etc.—is decreasing; milk used for these products amounted to 870,000,000 lb. in 1966, about 114,000,000 lb. fewer than in 1965 and 163,000,000 lb. fewer than in 1961. On the other hand, there is a steadily expanding market for solids non-fat, in the form of dry skim milk and casein; in 1966 the quantity of whole milk used

in the production of these products amounted to 3,876,000,000 lb., an increase of 15.0 p.c. over the amount used in 1965. Casein production is concentrated in Quebec, about 93 p.c. of the national total originating in that province.

The importance of international trade in this sector of the industry is evident from the fact that of every 10 lb. of whole milk powder produced in Canada, nine are exported; of every 10 lb. of casein produced, seven are sold abroad; and of every 10 lb. of skim milk powder produced, four are exported. In normal years, export values of dairy products are three times as large as import values.

22.—Production of Concentrated Milk Products, 1962-66

(Exclusive of Newfoundland)

Product	1962	1963	1964	1965	1966
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Concentrated Whole Milk Products.....	363,566	383,675	384,942	377,275	363,134
Condensed milk.....	16,313	17,475	17,621	19,251	22,788
Evaporated milk.....	292,606	313,086	314,705	310,136	309,892
Whole milk powder.....	23,310	21,907	22,330	21,947	7,732
Partly skimmed evaporated milk.....	19,024	18,108	18,250	15,136	14,073
Other whole milk products ¹	12,313	13,099	12,036	10,805	8,649
Concentrated Milk By-products.....	259,470	259,759	292,547	328,406	370,613
Condensed skim milk.....	1,816	1,346	1,060	1,232	2,054
Evaporated skim milk.....	5,335	7,073	7,382	7,494	8,455
Skim milk powder.....	192,292	176,086	203,047	222,155	263,508
Powdered buttermilk.....	10,323	10,149	9,740	9,141	9,123
Whey powder.....	18,221	30,051	32,671	41,398	39,552
Casein.....	22,197	21,426	20,150	23,153	24,440
Other milk by-products ¹	9,286	13,628	18,197	23,833	23,481
Totals.....	623,036	643,434	677,489	705,681	733,747

¹ Includes malted milk, cream powder, formula milks, whole milk powder of less than 26-p.c. fat, evaporated milk of 2-p.c. fat and concentrated liquid milk manufactured by fewer than three firms. ² Includes sugar of milk (lactose), condensed buttermilk, concentrated liquid skim milk lactalbumin and special formula skim milk products manufactured by fewer than three firms.

23.—Production of Ice Cream Mix, by Province, 1964-66

Province	1964	1965	1966	Province	1964	1965	1966
	'000 gal.	'000 gal.	'000 gal.		'000 gal.	'000 gal.	'000 gal.
Newfoundland.....	..	..	..	Manitoba.....	1,503	1,505	1,492
Prince Edward Island..	151	165	172	Saskatchewan.....	1,357	1,188	1,174
Nova Scotia.....	1,030	1,140	1,166	Alberta.....	2,259	2,595	2,735
New Brunswick.....	659	722	793	British Columbia.....	2,636	2,908	2,946
Quebec.....	6,452	6,684	6,833				
Ontario.....	8,637	8,750	9,275	Totals.....	24,684	25,657	26,646

As indicated in Table 24, the estimated total consumption of fluid milk and cream, on a milk basis, has increased only slightly over the past three years and the per capita consumption has continued the slow decline in evidence over the past two decades. Total and per capita domestic disappearance of all dairy products are shown in Table 25.

24.—Estimated Consumption of Milk and Cream (expressed as Milk), by Province, 1964-6

Province and Year	Estimated Con- sumption	Daily per Capita Con- sumption	Province and Year	Estimated Con- sumption	Daily per Capita Con- sumption
	'000 pt.	pt.		'000 pt.	pt.
Newfoundland.....	..	..	Manitoba.....1964	264,293	0.71
Prince Edward Island.....1964	32,607	0.83	1965	259,706	0.71
1965	32,222	0.82	1966	257,285	0.71
1966	31,966	0.80	Saskatchewan.....1964	269,444	0.71
Nova Scotia.....1964	171,393	0.62	1965	269,656	0.71
1965	172,875	0.62	1966	269,566	0.71
1966	171,865	0.62	Alberta.....1964	388,579	0.71
New Brunswick.....1964	136,397	0.60	1965	390,912	0.71
1965	139,951	0.61	1966	383,079	0.71
1966	140,317	0.61	British Columbia.....1964	384,003	0.61
Quebec.....1964	1,309,627	0.64	1965	400,256	0.61
1965	1,294,222	0.63	1966	412,883	0.61
1966	1,292,762	0.61			
Ontario.....1964	1,725,911	0.71	Totals.....1964	4,682,254	0.61
1965	1,757,133	0.71	1965	4,716,933	0.61
1966	1,772,469	0.70	1966	4,732,197	0.61

25.—Domestic Disappearance of Dairy Products, 1964-66

Product	1964		1965		1966	
	Total	Per Capita ¹	Total	Per Capita ¹	Total	Per Capita ¹
	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.
Milk and Cream.....	6,040,109	321.62	6,084,851	318.48	6,104,541	318.48
Milk.....	5,109,689	272.08	5,162,722	270.22	5,194,598	266.51
Cream as milk.....	930,420	49.54	922,129	48.26	909,943	46.61
Butter.....	366,781	19.03	364,515	18.59	356,594	17.81
Creamery.....	357,323	18.54	356,201	18.17	348,304	17.71
Dairy.....	4,908	0.25	3,741	0.19	3,311	0.16
Whey.....	4,550	0.24	4,573	0.23	4,979	0.25
Cheese.....	166,566	8.64	179,011	9.13	184,489	9.21
Cheddar.....	65,625	3.40	67,169	3.42	59,230	2.91
Process.....	68,824	3.57	75,238	3.84	84,331	4.14
Other.....	32,117	1.67	36,604	1.87	40,928	2.16
Concentrated Whole Milk Products².....	353,091	18.32	349,215	17.81	346,836	17.41
Evaporated.....	302,546	15.70	299,633	15.28	300,166	15.11
Condensed.....	17,587	0.91	19,139	0.98	22,352	1.11
Powdered.....	2,976	0.15	3,840	0.19	1,298	0.06
Concentrated Milk By-products³.....	229,862	11.93	226,790	11.57	253,431	12.51
Evaporated.....	7,345	0.38	7,553	0.39	8,428	0.41
Condensed.....	1,052	0.05	1,233	0.06	2,052	0.10
Powdered.....	153,406	7.96	138,892	7.08	163,499	8.00
All Dairy Products in Terms of Milk—						
Butter.....	8,476,205	439.84	8,422,642	429.64	8,227,791	411.11
Cheese.....	1,636,761	84.41	1,743,551	88.94	1,775,451	88.94
Concentrated.....	819,240	42.51	817,602	41.71	796,235	39.71
Grand Totals⁴.....	17,452,232	913.80	17,605,838	906.17	17,540,420	884.76

¹ Includes Newfoundland for all manufactured dairy products.² Includes, in addition to the items listed, malted milk, cream powder, partly skimmed evaporated milk, whole milk powder of less than 26-p.c. fat, formula milks, evaporated milk of 2-p.c. fat, and concentrated liquid milk.³ Includes milk by-product items not listed, i.e., condensed buttermilk, powdered buttermilk, sugar of milk, casein, powdered whey, special formula skim milk products, lactalbumin and concentrated liquid skim milk. Since the quantities used for human consumption and livestock feeding cannot be separated, per capita figures include both.⁴ Includes ice cream.

Subsection 6.—Fruits, Vegetables and Other Farm Products

Fruits.—Commercial fruit growing in Canada is confined almost exclusively to rather limited areas in the Provinces of Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia. Nova Scotia production is centred mainly in the Annapolis Valley and New Brunswick production in the St. John River Valley and Westmorland County. The fruit growing districts of Quebec are the Montreal area, the North Shore area, the Eastern Townships and the Quebec City district. Ontario fruit is grown in all the counties adjacent to the St. Lawrence River and the Great Lakes as far west as Georgian Bay, the Niagara district being the most productive. In British Columbia the four well-defined fruit areas are the Okanagan Valley, the Fraser Valley, the Kootenay and Arrow Lakes district and Vancouver Island. The climate elsewhere in Canada is not generally suitable for commercial tree-fruit culture. In most producing areas, particularly in the Annapolis Valley of Nova Scotia, the Niagara Peninsula of Ontario and the Okanagan Valley of British Columbia, fruit growing is either the principal or one of the most important forms of agriculture and is very important to the economy of those areas. Apples and small fruits are produced commercially in the provinces named but tender tree fruits and commercial vineyards are limited largely to Ontario and British Columbia.

Strawberries are grown commercially in all provinces for which tree-fruit statistics are prepared, as well as in Prince Edward Island. However, this crop is produced over a somewhat wider area than are tree fruits. In Nova Scotia, for example, considerable quantities of strawberries are grown in Colchester County and farther north, as well as in the apple producing areas of the Annapolis Valley. In British Columbia most of the strawberries are grown in the Fraser Valley.

Raspberries are grown commercially in Nova Scotia, New Brunswick and Quebec but the bulk of the crop is produced in Ontario and British Columbia. The Fraser Valley of British Columbia is the most important producing area.

Wild blueberries are harvested on a commercial scale in Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick and Quebec. This crop is indigenous to certain areas in these provinces and a large percentage of the crop is frozen and exported. There is also some production of cultivated blueberries, particularly in British Columbia.

A marketing system has been developed for distributing fresh fruit from the specialized production areas to all parts of the country and a large proportion of the deciduous fruit consumed in Canada is grown domestically. Considerable quantities of apples, strawberries and blueberries are exported.

Tables 26 and 27 show the estimated commercial production of fruit, by kind, for the years 1964-66 and by province for 1959-66.

26.—Estimated Commercial Production and Farm Value of Fruit, 1964-66

Kind of Fruit and Year	Quantity	Weight	Farm Value	Kind of Fruit and Year	Quantity	Weight	Farm Value
	'000 bu.	'000 lb.	\$'000		'000 bu.	'000 lb.	\$'000
Apples—				Peaches—			
1964.....	20,052	902,340	31,598	1964.....	2,862	143,100	8,128
1965.....	22,316	1,004,220	30,999	1965.....	1,606	80,300	5,531
1966.....	21,042	946,890	31,717	1966.....	2,085	104,250	7,434
Apricots—				Pears—			
1964.....	387	19,350	754	1964.....	1,999	99,950	3,642
1965.....	2	100	13	1965.....	1,065	53,250	2,661
1966.....	279	13,950	536	1966.....	2,062	103,100	4,240
Cherries (sour)—				Plums and Prunes—			
1964.....	604	30,200	2,003	1964.....	668	33,400	1,171
1965.....	444	22,200	1,621	1965.....	505	25,250	1,209
1966.....	264	13,200	1,647	1966.....	591	29,550	1,491
Cherries (sweet)—				Raspberries—			
1964.....	558	27,900	4,603	1964.....	13,765	19,750	3,854
1965.....	242	12,100	2,018	1965.....	13,485	19,394	4,390
1966.....	413	20,650	3,649	1966.....	13,910	20,218	3,947

26.—Estimated Commercial Production and Farm Value of Fruit, 1964-66—concluded

Kind of Fruit and Year	Quantity	Weight	Farm Value	Kind of Fruit and Year	Quantity	Weight	Farm Value
	'000 qt.	'000 lb.	\$'000		'000 lb.	'000 lb.	\$'000
Strawberries—				Grapes—			
1964.....	30,866	41,464	7,939	1964.....	119,595	119,595	6,015
1965.....	17,232	22,304	5,405	1965.....	126,046	126,046	5,440
1966.....	30,695	41,182	8,809	1966.....	122,536	122,536	6,333
Loganberries—	'000 lb.			Blueberries—			
1964.....	1,078	1,078	173	1964.....	20,861	20,861	3,603
1965.....	991	991	168	1965.....	18,145	18,145	4,406
1966.....	1,340	1,340	236	1966.....	37,509	37,509	6,674

27.—Value of Commercial Fruit Produced, by Province, 1964-66, with Average for 1959-63
 (Farm value for unpacked fruit)

Province	Average 1959-63	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	146	83	634	56
Prince Edward Island.....	342	393	392	31
Nova Scotia.....	3,430	3,903	5,352	5,07
New Brunswick.....	1,315	1,514	1,573	2,1
Quebec.....	8,068	11,023	9,351	12,1
Ontario.....	23,463	31,990	28,421	30,7
British Columbia.....	18,690	25,048	18,379	26,0
Totals.....	55,454	73,954	64,102	77,0

Vegetables.—Estimates of acreage and production of commercial vegetables in Canada are prepared for all provinces except Newfoundland and Saskatchewan; only partial estimates were prepared for Prince Edward Island until 1965. Ontario is the largest producer, followed by Quebec and British Columbia. A wide variety of crops is grown in these three provinces and a somewhat smaller range in the Maritimes and in the Prairie Provinces.

Canning, freezing and processing of vegetables are carried on in the important producing areas. The estimates in the following tables cover output of commercial growers for processing and for sale on the fresh market but do not include acreages or production of vegetables grown for home use on farms and elsewhere.

28.—Estimated Commercial Acreage of Vegetables, by Province, 1964-66, with Average for 1959-63

Province	Av. 1959-63	1964	1965	1966
	acres	acres	acres	acres
Prince Edward Island.....	..		270	2
Nova Scotia.....	3,130	5,170	4,370	4,6
New Brunswick.....	6,094	10,380	9,620	8,6
Quebec.....	67,838	83,170	83,240	76,5
Ontario.....	105,502	115,470	117,220	112,3
Manitoba ¹	3,618	3,820	4,020	2,8
Alberta ¹	15,402	16,000	15,220	14,4
British Columbia.....	15,674	13,490	17,380	15,3
Totals.....	217,258	247,500	251,340	235,6

¹ Acreages of beans, corn and peas in Manitoba are included with Alberta.

**29.—Estimated Commercial Acreage and Production of Vegetables, 1964-66,
with Average for 1959-63**

Vegetable	Av. 1959-63		1964		1965		1966	
	Area	Production	Area	Production	Area	Production	Area	Production
	acres	'000 lb.	acres	'000 lb.	acres	'000 lb.	acres	'000 lb.
Asparagus.....	3,858	6,991	4,030	5,775	3,820	5,866	3,820	5,492
Beans.....	15,794	55,342	28,020	98,406	26,360	97,831	26,050	108,099
Beets.....	2,820	51,214	3,220	57,104	2,730	45,044	2,480	46,443
Cabbage ¹	6,816	126,640	7,420	136,635	7,350	143,365	6,690	137,281
Carrots ¹	12,168	294,284	14,270	351,427	15,450	300,637	14,070	420,918
Cauliflower ¹	2,870	30,666	3,150	33,770	3,320	37,490	2,970	32,658
Celery.....	1,252	43,063	1,110	40,504	1,050	42,832	980	38,790
Corn ¹	54,948	347,213	52,180	389,417	57,930	403,911	58,710	454,683
Cucumbers.....	8,842	65,115	11,910	86,522	11,850	65,413	11,240	104,018
Lettuce ¹	5,066	58,515	4,990	57,067	5,150	57,521	4,560	48,219
Onions.....	8,296	190,562	9,590	215,722	10,300	288,966	8,920	206,157
Parsnips ¹	718	12,469	580	9,554	690	13,863	590	11,082
Peas.....	47,968	104,934	61,280	138,328	58,690	168,259	53,960	121,116
Spinach.....	1,130	11,951	1,090	12,642	1,070	11,457	1,110	11,164
Tomatoes ¹	35,436	790,865	34,360	772,748	35,210	899,296	29,770	704,073
Turnips.....	9,276	228,201	10,300	240,605	10,370	243,016	9,090	214,616

¹ Prince Edward Island figures not included before 1965.

Tobacco.—Canada produces several types of leaf tobacco but by far the most important is the flue-cured or Bright Virginia type. This is grown mainly in Ontario, along with considerable quantities of burley and smaller amounts of dark (air-cured and fire-cured) tobacco. Quebec produces smaller quantities of these types as well as some cigar and pipe tobacco and small flue-cured acreages are also harvested in Prince Edward Island, Nova Scotia and New Brunswick. In 1966, increased plantings of flue-cured tobacco in Ontario from 86,870 acres to 117,471 acres was the principal reason for the production of a larger total crop than in 1965; the crop in that province increased in volume approximately 60,000,000 lb. to almost 215,000,000 lb.

A study of Department of National Revenue reports on tax-paid withdrawals of tobacco products reveals changes in the smoking habits of Canadians during the past four decades. In 1922, the first year for which comparable figures are available, Canadian annual per capita production for domestic consumption of cigarettes (calculated on the basis of total population) was 229; by 1965 it had increased to 2,198 and by 1966 to 2,323.

**30.—Acreage, Production and Value of the Commercial Crop of Leaf Tobacco,
by Province, 1962-66**

Year	Quebec			Ontario			Other Provinces		
	Har-vested Area	Pro-duction	Value	Har-vested Area	Pro-duction	Value	Har-vested Area	Pro-duction	Value
	acres	'000 lb.	\$	acres	'000 lb.	\$	acres	'000 lb.	\$
1962.....	8,901	12,388	4,582,000	121,640	190,265	91,165,000	515	374	157,000
1963.....	8,933	10,776	4,046,000	104,178	189,719	86,279,000	782	649	308,000
1964.....	8,334	9,919	4,299,000	76,267	142,738	78,390,000	715	757	429,000
1965.....	9,348	9,272	3,961,000	89,220	158,810	101,765,000	776	798	472,000
1966.....	9,935	12,082	6,845,000	120,561	220,736	156,318,000	923	1,158	784,000

31.—Acreage, Production and Value of the Commercial Crop of Leaf Tobacco, by Main Type, 1962-66

Type of Tobacco and Year	Harvested Area	Average Yield per Acre	Total Production	Average Farm Price per lb.	Gross Farm Value	
	acres	lb.	'000 lb.	cts.	\$ '000	
Flue-cured.....	1962	122,405	1,533	187,621	48.3	90,571
	1963	105,814	1,764	186,648	45.9	85,701
	1964	79,639	1,798	143,197	55.6	79,631
	1965	93,523	1,702	159,185	64.6	102,811
	1966	124,136	1,883	223,703	71.3	159,591
Burley.....	1962	4,569	1,952	8,918	40.4	3,601
	1963	4,241	3,844	8,808	34.1	3,471
	1964	2,398	3,638	5,317	30.7	2,051
	1965	1,939	2,054	3,982	44.7	1,781
	1966	2,790	1,966	5,484	51.7	2,831
Cigar leaf.....	1962	3,055	1,716	5,242	25.0	1,311
	1963	2,567	1,625	4,171	24.0	1,001
	1964	2,318	1,500	3,477	26.0	901
	1965	3,108	1,461	4,540	25.3	1,141
	1966	3,781	1,000	3,790	28.8	1,091
Totals ¹	1962	131,056	1,548	203,927	47.2	95,901
	1963	113,893	1,766	201,144	45.1	90,631
	1964	85,316	1,798	153,414	54.2	83,111
	1965	99,344	1,700	168,880	62.9	106,191
	1966	131,419	1,780	233,976	70.7	163,941

¹ Includes other types not specified.

Eggs.—Egg production in 1966 at 412,943,000 doz. was 4.6 p.c. lower than the output of 1965 and 7.9 p.c. lower than the record production in 1959, which amounted to 448,200,000 doz. The number of layers decreased slightly and the rate of lay per 100 layers dropped to 19,691 from 20,012. The farm selling price of eggs averaged 42.8 cents per doz. compared with 36.3 cents in 1965 so that, despite the lower production, there was an increase in total value of eggs produced. The three Maritime Provinces produced 7.5 p.c. of all eggs in 1966; Quebec, 17.3 p.c.; Ontario, 38.5 p.c.; the Prairies, 24.3 p.c. and British Columbia 12.4 p.c.

32.—Production, Utilization and Value of Farm Eggs, by Province, 1965 and 1966

Province	1965				1966			
	Average Number of Layers	Average Production per 100 Layers	Net Eggs Laid ¹	Total Value (Sold and Used)	Average Number of Layers	Average Production per 100 Layers	Net Eggs Laid ¹	Total Value (Sold and Used)
	'000	No.	'000 doz.	\$'000	'000	No.	'000 doz.	\$'000
Prince Edward Island.....	262	18,205	3,944	1,341	219	18,740	3,388	1,421
Nova Scotia.....	1,037	21,555	18,450	7,424	1,066	21,455	18,854	8,721
New Brunswick.....	563	19,795	9,189	4,092	532	19,847	8,680	4,421
Quebec.....	4,563	20,407	77,013	31,078	4,428	19,563	71,368	34,501
Ontario.....	10,018	20,558	170,701	62,307	9,575	20,085	159,267	71,221
Manitoba.....	2,623	19,615	42,584	13,036	2,541	19,125	40,257	14,891
Saskatchewan.....	1,753	17,551	25,379	7,682	1,555	17,522	22,562	7,821
Alberta.....	2,493	17,837	36,654	11,765	2,487	18,294	37,432	13,101
British Columbia.....	2,835	20,829	48,881	18,220	2,974	20,774	51,135	20,341
Totals.....	26,147	20,012	432,795	156,945	25,377	19,691	412,943	176,551

¹ Total laid less loss.

Wool.—Canada's apparent wool consumption showed a decided drop in 1966 compared with 1965. In the later year Canada produced only 8 p.c. of total requirements; imports at 61,917,000 lb. were down about 7 p.c. and exports at 3,021,000 lb. were down by almost 30 p.c. compared with the previous year. The domestic consumption shown in Table 33 is determined on the basis of production, exports and imports but does not take into consideration changes in stocks for which the data are not available. Differences in wool utilization from year to year are therefore probably less marked than is indicated by these figures.

33.—Production and Apparent Consumption of Wool, 1962-66

Item	1962	1963	1964	1965	1966
Shorn Wool Produced—					
Yield per fleece..... lb.	8.0	7.9	8.0	7.8	7.7
Total yield..... '000 lb.	5,808	5,259	5,065	4,653	4,173
Price per pound ¹ cts.	49.3	51.9	51.5	48.9	47.6
Total value..... \$'000	2,862	2,728	2,611	2,273	1,990
Pulled Wool Produced..... '000 lb.	1,361	1,553	1,281	1,162	867
Totals, Wool Production..... '000 lb.	7,169	6,812	6,346	5,815	5,045
Apparent wool consumption ² '000 lb.	57,505	61,956	64,977	66,801	63,941

¹ Includes Agricultural Stabilization Act payments of 18.26 cents per lb. in 1962, 14.3 cents per lb. in 1963, 12.3 cents per lb. in 1964, 16.3 cents per lb. in 1965 and 18.3 cents per lb. in 1966 on qualifying graded wool. ² See text above.

Honey.—As shown in Table 34, honey production was 10 p.c. lower in 1966 than in 1965, a drop accounted for by a decrease in the average yield per colony. Honey is produced commercially in all provinces except Newfoundland and yields tend to vary considerably from year to year. In 1966, Alberta was the largest producer, surpassing Ontario which had the highest production in 1964. Honey bees are kept in some of the fruit growing districts for purposes of pollination and are also used for the pollination of certain seed crops.

To facilitate storage, shipment and uniformity of quality, large quantities of Canadian honey are pasteurized. Beekeepers' marketing co-operatives are active in several provinces. In 1966, 8,571,213 lb. of honey valued at \$2,353,000 were exported from Canada, the main countries of destination being Britain, West Germany, Belgium and Luxembourg, Ireland, Japan and the United States.

34.—Honey and Beeswax Production 1964-66, with Average for 1959-63

Item	Average 1959-63	1964	1965	1966
Honey—				
Total production..... '000 lb.	34,332	36,662	49,157	44,502
Average production per colony..... lb.	101	96	119	104
Total value..... \$'000	5,826	6,655	8,767	8,151
Beeswax—				
Production..... '000 lb.	508	545	733	661
Value..... \$'000	231	252	340	311
Total Value, Honey and Beeswax..... \$'000	6,057	6,907	9,107	8,462
Beekeepers..... No.	11,888	10,760	10,350	10,000
Bee colonies..... "	339,096	382,240	413,030	429,860

35.—Honey Production, by Province, 1964-66, with Average for 1959-63

Province	Av. 1959-63	1964	1965	1966
	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Prince Edward Island.....	57	54	56	54
Nova Scotia.....	187	197	303	201
New Brunswick.....	85	97	86	102
Quebec.....	3,294	2,592	2,392	3,261
Ontario.....	10,487	11,000	9,800	10,211
Manitoba.....	6,170	5,822	5,930	8,911
Saskatchewan.....	4,258	5,500	6,300	6,104
Alberta.....	8,148	9,800	20,050	13,181
British Columbia.....	1,646	1,600	4,240	2,471
Totals.....	34,332	36,662	49,157	44,501

Sugar Beets and Beet Sugar.—Sugar beets are grown commercially in Quebec, Ontario, Manitoba and Alberta and beet sugar factories are located in these provinces. In Quebec, commercial production is centred in the St. Hilaire area of the Eastern Townships; in Ontario, production is confined to the southwestern section of the province. Alberta produces the largest crop and in that province sugar beets are grown under irrigation.

36.—Acreage, Yield and Value of Sugar Beets and Quantity and Value of Beet Sugar Shipments, 1962-66

Year	Sugar Beets					Beet Sugar (All Types)	
	Harvested Area	Yield per Acre	Total Yield	Average Price per Ton	Total Value	Shipments	Value
	acres	tons	tons	\$	\$'000	'000 lb.	\$'000
1962.....	84,677	13.06	1,105,704	19.00	21,004	284,236	20,791
1963.....	95,223	13.50	1,285,747	18.34	23,586	290,288	33,191
1964.....	101,312	12.81	1,297,912	14.71	19,091	307,652	37,031
1965.....	85,023	13.44	1,142,341	16.69	19,061	327,288	23,621
1966.....	81,272	14.35	1,166,554	16.40	19,126	276,213	19,291

Maple Sugar and Maple Syrup.—Maple syrup is produced in the Provinces of Nova Scotia, New Brunswick, Quebec and Ontario. The bulk of the crop comes from the Eastern Townships of Quebec, a district famous both in Canada and in the United States as the centre of the maple products industry. Virtually all of the maple products exported are sent to the United States with the larger proportion moving as sugar, although substantial quantities of syrup are also shipped. Much of the syrup sold in Canada is marketed in one-gallon cans direct to the consumer from the producer but a considerable amount of both sugar and syrup is sold each year to processing firms.

**37.—Production of Maple Sugar and Maple Syrup, by Province, 1964-66, with
Average for 1959-63**

Province and Year	Maple Sugar		Maple Syrup			Total Value, Sugar and Syrup
	Quantity	Value	Quantity	Average Price per gal.	Value	
	lb.	\$	gal.	\$	\$	\$
Nova Scotia—						
Av. 1959-63.....	11,980	7,600	3,720	5.54	20,600	28,200
1964.....	1,500	1,000	1,400	5.71	8,000	9,000
1965.....	8,380	6,000	3,240	6.17	20,000	26,000
1966.....	12,700	10,000	5,280	6.82	36,000	46,000
New Brunswick—						
Av. 1959-63.....	41,200	25,800	8,960	5.31	47,600	73,400
1964.....	11,150	8,000	4,600	5.87	27,000	35,000
1965.....	40,180	32,000	12,000	6.33	76,000	108,000
1966.....	31,000	25,000	10,600	6.13	65,000	90,000
Quebec—						
Av. 1959-63.....	565,000	272,000	2,275,000	3.83	8,705,000	8,977,000
1964.....	457,000	256,000	1,561,000	4.13	6,447,000	6,703,000
1965.....	436,000	244,000	1,957,000	4.15	8,122,000	8,366,000
1966.....	434,000	252,000	2,802,000	4.29	12,021,000	12,273,000
Ontario—						
Av. 1959-63.....	13,960	9,600	257,800	5.11	1,318,000	1,327,600
1964.....	7,960	6,000	155,000	5.40	837,000	843,000
1965.....	9,920	8,000	187,000	5.60	1,047,000	1,055,000
1966.....	18,325	16,000	311,500	5.88	1,832,000	1,848,000
Totals—						
Av. 1959-63.....	632,140	315,000	2,545,480	3.96	10,091,200	10,406,200
1964.....	477,610	271,000	1,722,000	4.25	7,319,000	7,590,000
1965.....	494,480	290,000	2,159,240	4.29	9,265,000	9,555,000
1966.....	496,025	303,000	3,129,380	4.46	13,954,000	14,257,000

Nursery Stock.—Statistics concerning the nursery industry in Canada for recent years are presented in Tables 38 and 39. All nurseries were asked to report quantities sold of stock propagated during these years; stock purchased from other nurseries in Canada was excluded to prevent duplication. A total of 257 nurseries reported shipments in 1966. Wholesale value of nursery stock shipments of fruit trees, etc., amounted to \$736,222 compared with \$502,357 in the previous year, and shipments of ornamental species to \$5,350,711 compared with \$4,761,177.

38.—Nursery Stock Shipments (Domestic), by Type, 1962-66

Classification	1962	1963	1964	1965	1966
	No.	No.	No.	No.	No.
Fruit Trees, etc.—					
Apple species.....	315,523	259,736	303,627	278,385	678,483
Tender tree-fruit species.....	235,468	304,880	242,545	296,187	259,631
Small fruit species.....	4,753,971	4,801,390	5,188,499	4,371,394	4,948,028
Other species.....	239,040	239,237	218,030	233,821	287,418
Ornamental Species—					
Rose bushes and hybrid teas.....	1,405,523	1,592,073	1,424,544	1,845,273	1,564,294
Other ornamental shrubs and deciduous trees	4,695,962	3,998,417	8,401,969	3,920,113	4,254,477
Evergreen trees.....	1,377,015	1,488,811	1,527,724	1,235,038	1,201,900
Ornamental climbers.....	58,387	60,289	69,571	71,745	95,642

39.—Acreage of Nursery Stock, by Province, 1965 and 1966

Province	1965		1966	
	Fruit Species	Ornamental Species	Fruit Species	Ornamental Species
	acres	acres	acres	acres
Quebec ¹	50	128	78	299
Ontario.....	589	2,376	510	2,012
Prairie Provinces.....	50	470	120	656
British Columbia.....	75	134	129	141
Totals.....	764	3,108	837	3,108

¹ Includes the Maritime Provinces for which insufficient information was reported.

Greenhouse Operations.—Annual surveys are made of greenhouse operations. Resulting figures are based on data reported by firms and individuals returning questionnaires, with the exception of that for cucumbers and tomatoes grown in Essex County of Ontario (the most important producing area), which are based on information obtained from the local co-operative marketing agency. Only greenhouses used for the production of items for sale are included in the survey.

40.—Greenhouse Operations, by Province, 1965, with Totals for 1961-64

Province	Firms Reporting	Area				Value of Sales (Wholesale)			
		Under Glass	Under Cloth	Under Plastic	Open Field	Cut Flowers and Potted Plants	Vegetables	Plants—Rooted Cuttings, etc., for Growing On	Total Sales
	No.	sq. ft.	sq. ft.	sq. ft.	acres	\$	\$	\$	\$
Nfld.....	13	18,848	—	21,238	1.6	63,978	2,622	39,580	106,180
P.E.I.....	51	568,168	1,825	368,530	7.8	965,617	277,766	57,146	1,300,529
N.S.....	29	192,043	1,745	90,000	17.8	310,184	7,485	43,835	361,504
N.B.....	106	1,337,724	26,183	199,504	112.5	1,942,921	31,244	212,601	2,186,766
Que.....	438	13,717,272	232,525	2,922,658	412.1	9,991,854	6,719,508	2,670,305	19,381,667
Ont.....	40	206,078	14,960	97,290	24.3	282,223	25	129,799	412,047
Man.....	18	145,140	2,500	88,386	20.0	221,004	6,310	83,735	311,049
Sask.....	61	1,555,279	27,798	181,340	35.9	1,636,687	171,236	299,793	2,107,716
Alta.....	153	2,246,573	20,586	489,936	243.6	2,552,530	1,328,639	328,550	4,209,719
B.C.....	153	2,246,573	20,586	489,936	243.6	2,552,530	1,328,639	328,550	4,209,719
Totals, 1965	909	19,987,125	328,122	4,458,882	875.6	17,966,998	8,544,835	3,865,344	30,377,177
1964	1,126	24,026,279	468,264	..	816.1	19,569,140	7,715,312	4,224,313	31,508,765
1963	1,195	23,735,418	437,671	..	807.8	17,951,072	6,818,638	3,494,414	28,264,124
1962	976	19,734,129¹	408,970	..	906.9	16,391,108	5,059,615	2,767,547	24,218,270¹
1961	1,074	18,474,888¹	435,912	..	2,160.0	15,668,154	4,389,100	2,341,156	22,398,410¹

¹ Total area of glass and value of vegetable sales for British Columbia not comparable with data for following years.

Subsection 7.—Prices of Agricultural Products

The monthly index of farm prices of agricultural products was designed to measure changes occurring in the average prices farmers receive at the farm from the sale of farm products. In comparing current index numbers with those before August 1966, certain points should be considered. Western grain prices used in the construction of the index before Aug. 1, 1966 are final prices for all grains. For the remaining months of 1966, the western grain prices used in the index are initial prices. Subsequent participation payments made on the 1966 crops will be added to the prices currently used and the index revised upward accordingly.

41.—Average Index Numbers of Farm Prices of Agricultural Products, by Province, 1962-66, and Monthly Indexes for 1965 and 1966

(1935-39 = 100)

NOTE.—A description of this index, its coverage and the methods used will be found in DBS *Quarterly Bulletin of Agricultural Statistics* (Catalogue No. 21-003) for October-December 1946. Monthly prices of grain and of live-stock are carried in the current issues of the same publication.

Year and Month	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
Averages—										
1962.....	196.7	231.0	215.0	275.9	273.8	278.3	265.2	283.2	284.6	272.0
1963.....	214.3	232.8	222.2	274.6	273.6	268.1	258.1	277.6	278.2	268.4
1964.....	255.1	232.5	245.0	280.5	269.5	261.5	253.5	271.3	273.0	265.8
1965.....	336.9	259.1	302.0	307.8	294.6	268.9	251.1	276.2	301.5	282.1
1966.....	286.3	268.7	265.7	345.0	326.5	274.7	252.9	282.6	320.6	297.2
1965										
January.....	318.0	242.9	287.7	295.1	274.5	255.4	241.4	256.2	278.7	265.1
February.....	323.4	257.9	301.5	302.3	282.9	257.1	242.8	261.4	290.2	271.0
March.....	314.5	255.9	295.0	300.5	281.0	261.3	245.6	263.3	291.8	271.4
April.....	364.9	262.3	324.0	297.9	283.2	262.2	246.4	264.7	299.4	273.8
May.....	377.6	266.3	349.0	301.5	286.9	264.4	247.6	266.8	301.4	277.0
June.....	424.7	279.3	381.4	313.0	299.1	271.9	252.8	277.3	306.7	287.4
July.....	487.6	291.7	383.0	318.1	305.2	270.9	254.0	279.5	319.1	292.0
August.....	333.9	262.4	273.2	307.8	298.9	278.3	264.7	287.8	297.9	287.9
September.....	237.1	241.9	226.2	302.3	297.1	278.3	266.0	287.5	306.0	284.9
October.....	294.4	251.6	280.1	314.3	299.0	273.6	262.7	288.1	308.1	287.8
November.....	287.3	248.2	263.1	316.3	307.8	273.2	262.7	285.5	306.9	289.6
December.....	279.8	249.2	259.0	324.0	320.0	280.5	266.3	295.9	312.0	297.6
1966										
January.....	280.3	251.6	263.3	330.6	323.1	284.9	269.8	299.6	312.6	301.3
February.....	298.9	260.5	277.6	340.1	327.3	290.0	273.5	306.8	317.2	307.2
March.....	341.1	262.1	277.9	334.9	317.7	288.2	272.3	302.1	320.8	303.1
April.....	383.4	281.4	307.5	345.0	324.9	290.5	271.6	297.4	324.7	307.2
May.....	371.5	286.6	321.3	348.8	329.5	290.4	271.8	299.6	324.9	309.7
June.....	273.7	278.2	270.3	352.2	330.4	291.8	272.5	302.5	324.1	308.9
July.....	241.8	262.8	238.7	346.7	322.9	287.2	270.9	296.1	322.1	302.7
August.....	266.7	263.6	240.5	340.5	321.0	250.1	222.7	255.2	316.0	280.3
September.....	249.5	268.0	235.9	345.3	323.4	255.2	226.5	257.1	319.6	283.1
October.....	251.2	272.1	252.7	352.0	353.6	256.9	227.7	259.0	321.5	288.2
November.....	239.6	269.1	250.5	351.3	352.0	253.7	227.1	257.9	321.1	286.8
December.....	237.6	268.9	252.1	352.5	352.7	257.5	228.2	258.2	323.0	287.9

42.—Average Cash Prices per Bushel of Major Canadian Grains, Crop Years Ended July 31, 1957-66

(Basis, in store Fort William—Port Arthur)

Year Ended July 31—	Averages in Cents and Eighths per Bushel				
	Wheat, ^{1,2} No. 1 N.	Oats, ¹ No. 2 C.W.	Barley ¹ No. 3 C.W. —6 Row	Rye, ³ No. 2 C.W.	Flaxseed, ³ No. 1 C.W.
	cts.	cts.	cts.	cts.	cts.
1957.....	168/1	80/6	116	119/7	298/4
1958.....	162/3	76/3	111	106	303
1959.....	166/2	77/6	109/7	108	302
1960.....	165/7	82/4	108/1	109/7	334/2
1961.....	167/4	81/2	107/5	105	311/4
1962.....	189/7	96/1	143/7	136/6	368/2
1963.....	196/1	81/6	130/6	137/2	335
1964.....	203/3	78/5	123/4	146/7	319/6
1965.....	198/3	83	133/2	125/4	320/3
1966.....	199/6	89/6	138/4	128/5	299/3

¹ Canadian Wheat Board daily fixed prices.² International Wheat Agreement and domestic sales.³ Winnipeg Grain Exchange daily closing cash quotations.

43.—Yearly Average Prices per 100 lb. of Canadian Livestock at Principal Markets, 1963-66

Item	Toronto				Montreal			
	1963	1964	1965	1966	1963	1964	1965	1966
	\$	\$	\$	\$	\$	\$	\$	\$
Steers, good.....	23.65	22.70	24.00	25.85	24.10	22.40	23.85	25.42
Steers, medium.....	21.59	20.60	21.90	24.30	22.42	20.55	22.20	24.22
Steers, common.....	17.84	17.08	17.28	21.00	18.94	17.17	18.06	20.92
Heifers, good.....	22.32	20.53	21.05	24.45	20.40	20.25	20.85	22.90
Heifers, medium.....	20.26	18.61	18.96	22.40	18.79	18.50	18.57	21.10
Cows, good.....	17.40	16.00	15.50	19.80	18.05	16.60	15.80	19.90
Cows, medium.....	15.98	14.46	14.25	18.20	16.05	14.62	13.45	17.32
Bulls, good.....	19.45	18.29	16.50	20.05	20.05	18.71	15.92	20.62
Feeder steers, good.....	25.30	22.80	22.70	27.70	1	1	1	1
Feeder steers, common.....	20.98	18.44	18.63	23.20	1	1	1	26.50
Calves, veal, good and choice.....	30.70	29.85	30.50	34.95	28.05	27.75	28.80	35.40
Calves, veal, common and medium.....	23.93	22.46	19.89	24.10	22.44	20.82	21.17	26.10
Hogs, Grade B, dressed.....	26.80	26.30	32.40	34.90	26.40	25.80	30.75	33.50
Lambs, good.....	23.30	24.30	26.70	26.50	21.25	23.10	29.70	23.92
Lambs, common.....	19.11	20.29	21.64	23.25	18.45	17.05	18.41	21.90
Sheep, good.....	9.10	8.80	8.32	10.60	9.50	8.87	11.10	12.50

Item	Winnipeg				Edmonton			
	1963	1964	1965	1966	1963	1964	1965	1966
	\$	\$	\$	\$	\$	\$	\$	\$
Steers, good.....	23.00	21.85	23.25	25.15	21.85	20.70	22.15	24.02
Steers, medium.....	21.40	19.92	21.05	23.15	20.48	19.14	20.28	22.62
Steers, common.....	18.81	17.52	17.75	19.40	18.32	16.76	16.68	20.50
Heifers, good.....	21.64	19.74	20.55	23.40	20.21	18.43	19.52	22.10
Heifers, medium.....	19.49	17.65	18.10	21.30	18.84	16.87	19.03	20.72
Cows, good.....	17.10	15.40	14.80	18.85	15.85	14.25	13.30	17.12
Cows, medium.....	15.92	14.33	13.67	17.70	14.51	13.02	11.99	15.92
Bulls, good.....	17.70	16.65	16.13	20.20	16.50	15.15	14.60	18.70
Feeder steers, good.....	23.20	20.85	22.05	25.55	22.65	20.40	21.40	24.70
Feeder steers, common.....	19.90	17.20	19.19	21.80	19.47	16.66	17.49	21.80
Feeder cows and heifers, good.....	19.63	16.52	18.08	21.35	18.54	16.40	15.74	19.80
Feeder cows and heifers, common.....	16.13	13.86	15.29	18.00	14.66	13.41	12.77	17.72
Calves, veal, good and choice.....	32.45	30.70	29.80	34.35	26.90	23.95	22.55	28.20
Calves, veal, common and medium.....	25.36	23.06	23.00	26.65	21.30	18.35	16.46	21.92
Hogs, Grade B, dressed.....	24.80	23.55	30.65	33.45	25.40	22.85	31.00	32.10
Lambs, good.....	18.95	19.80	21.30	21.85	17.80	18.10	20.70	22.00
Lambs, common.....	16.65	17.61	18.51	19.50	15.88	16.68	19.08	19.30
Sheep, good.....	4.65	4.64	4.55	5.00	5.70	5.80	7.04	5.90

¹ No sales reported.

Subsection 8.—Food Consumption

Food consumption figures represent available supplies, including production and imports, adjusted for change of stocks, exports, marketing losses and industrial uses. All calculations are made at the retail stage of distribution, except for meats for which the figures are worked out at the wholesale stage. The amount of food actually eaten would be somewhat lower than indicated because of losses and waste occurring after the products reach the hands of the consumer. It should also be pointed out that there are minor inaccuracies in certain of the figures since statistics of storage stocks in the hands of retailers and consumers are not available.

All basic foods are classified under 12 main commodity groups. The total for each group is computed using a common denominator for the group, for example: milk solid (dry weight) in the dairy products group; fat content for fats and oils; and fresh equivalent for fruits. All foods are included in their basic form, that is, as flour, fat, sugar, etc. rather than in more highly manufactured forms.

The series in Table 44 represents the official estimates of yearly supplies of food moving into consumption, expressed in pounds per capita, for the years 1960-64 as an average for comparison with the years 1964 and 1965.

44.—Per Capita Supplies of Food Moving into Consumption 1964 and 1965, with Average for 1960-64

Kinds of Food and Weight Base	Pounds per Capita per Annum			Percentages of 1960-64 Average	
	Average 1960-64	1964	1965	1964	1965
Cereals Retail wt.	152.1	145.6	159.3	95.7	104.7
Flour (including rye flour) ¹	134.1	127.1	144.0	94.8	107.4
Oatmeal and rolled oats.....	5.0	5.2	5.1	104.0	102.0
Pot and pearl barley.....	0.2	0.1	0.1	50.0	50.0
Corn meal and flour.....	2.0	2.5	3.0	125.0	150.0
Buckwheat flour.....	0.1	0.04	0.04	40.0	40.0
Rice.....	3.9	3.9	6.1	100.0	156.4
Breakfast food.....	6.9	6.8	..	98.6	..
Potatoes Fresh equiv.	156.0	157.5	161.4	101.0	103.5
White potatoes, fresh.....	137.1	133.1	130.8	97.1	95.4
Sweet potatoes, fresh.....	0.4	0.4	0.4	100.0	100.0
Sugars and Syrups Sugar content	104.9	106.1	106.9	101.1	101.9
Sugar.....	97.3	98.3	98.8	101.0	101.5
Maple sugar.....	0.7	0.4	0.5	57.1	71.4
Honey.....	1.8	1.8	2.1	100.0	116.7
Other.....	9.0	9.8	9.7	108.9	107.8
Pulses and Nuts Retail wt.	10.1	10.4	10.6	103.0	105.0
Dry beans ²	2.6	2.6	2.4	100.0	92.3
Dry peas.....	1.7	2.1	1.6	123.5	94.1
Peanuts.....	3.2	3.2	3.7	100.0	115.6
Tree nuts.....	1.1	1.1	1.2	100.0	109.1
Cocoa.....	1.5	1.4	1.7	93.3	113.3
Fruits Fresh equiv.	242.3	234.4	244.5	96.7	100.9
Tomatoes and Citrus Fruit—					
Tomatoes, fresh.....	19.5	13.4	12.4	68.7	63.6
Tomato products ³	21.1	19.6	23.8	92.9	112.8
Citrus fruit, fresh.....	25.7	24.0	25.0	93.4	97.3
Citrus fruit juice.....	14.5	11.4	11.3	78.6	77.9
Other Fruit—					
Fresh.....	71.2	73.2	73.2	102.8	102.8
Canned.....	11.6	14.1	17.0	121.6	146.6
Unspecified.....	7.2	10.4	8.5	144.4	118.1
Frozen.....	2.7	3.7	3.7	137.0	137.0
Unspecified.....	30.3	23.3	22.9	76.9	75.6
Vegetables Fresh equiv.	105.1	105.4	114.9	100.3	109.3
Fresh—					
Cabbage and greens.....	17.5	17.0	19.4	97.1	110.9
Carrots.....	14.5	14.4	14.1	99.3	97.2
Legumes.....	1.2	1.4	1.8	116.7	150.0
Other.....	36.6	33.5	36.8	91.5	100.5
Processed—					
Canned.....	16.4	17.3	18.7	105.5	114.0
Frozen.....	1.9	3.6	4.0	189.5	210.5
Other.....	12.9	12.9	13.6	100.0	105.4
Oils and Fats Fat content	44.6	45.4	43.9	101.8	98.4
Margarine.....	9.5	8.9	8.7	93.7	91.6
Lard.....	8.1	7.7	7.2	95.1	88.9
Shortening.....	9.7	10.3	9.9	106.2	102.1
Salad and cooking oil.....	4.6	4.8	4.7	104.3	102.2
Butter.....	17.9	19.0	18.6	106.1	103.9
Eggs Fresh equiv.	33.3	32.2	32.1	96.7	96.4
Meat Carcass wt.	142.5	149.1	146.3	104.6	102.7
Pork.....	51.0	52.0	49.2	102.0	96.5
Beef.....	72.2	78.5	78.7	108.7	109.0
Veal.....	6.7	6.9	8.0	103.0	119.4
Mutton and lamb.....	3.5	3.4	2.8	97.1	80.0
Offal.....	4.3	3.8	3.4	88.4	79.1
Canned meat.....	5.8	5.5	5.4	94.8	93.1
Poultry and Fish Edible wt.	36.1	38.8	42.2	107.5	116.9
Hens and chickens ⁴	23.2	25.4	26.0	109.5	112.1
Other poultry.....	8.2	9.1	10.0	111.0	122.0

For footnotes, see end of table, p. 524.

44.—Per Capita Supplies of Food Moving into Consumption 1964 and 1965, with Average for 1960-64—concluded

Kinds of Food and Weight Base	Pounds per Capita per Annum			Percentages of 1960-64 Average	
	Average 1960-64	1964	1965	1964	1965
Poultry and Fish—concluded					
Fish and shellfish, fresh and frozen.....Edible wt.	8.2	8.8	11.0	107.3	134.
Fish, cured (smoked, salted, pickled).....“	1.4	1.0	1.6	71.4	114.
Fish and shellfish, canned.....Net wt. canned	3.2	3.4	2.9	106.2	90.
Milk and Cheese.....Milk solids	64.3	60.5	60.6	94.1	94.
Cheddar cheese ¹.....Retail wt.	6.4	7.0	7.1	109.4	110.
Other cheese.....“	1.5	1.7	1.9	113.3	126.
Cottage cheese.....“	1.4	1.5	1.6	107.1	114.
Evaporated whole milk.....“	17.6	16.6	16.1	94.3	91.
Condensed whole milk.....“	0.9	0.9	1.0	100.0	111.
Whole milk powder and cream powder ⁶“	0.3	0.2	0.2	66.7	66.
Skim milk powder.....“	7.7	8.0	7.1	103.9	92.
Milk in ice cream.....“	31.1	25.4	27.4	81.7	88.
Powdered buttermilk.....“	0.5	0.5	0.4	100.0	80.
Fluid whole milk ⁷“	329.9	321.6	320.4	97.5	97.
Miscellaneous milk products ⁸“	2.6	3.6	4.4	138.5	169.
Beverages.....Primary distribution wt.	11.7	11.3	11.2	96.6	95.
Tea.....“	2.4	2.4	2.4	100.0	100.
Coffee.....Green beans	9.3	8.9	8.8	95.7	94.

¹ Fluctuations in apparent per capita flour consumption are caused partly by lack of complete data on flour inventories in all positions. ² Includes soybean flour. ³ Tomatoes canned, tomato juice, tomato pulp, paste and purée, and ketchup. ⁴ Exclusive of Newfoundland. ⁵ Includes process cheese.

⁶ Cream powder included in whole milk powder for 1964 and 1965. ⁷ Includes cream expressed as milk.

⁸ Includes evaporated and condensed skim milk, condensed buttermilk, sugar of milk, formula skim milk products and concentrated liquid skim milk.

Disappearance of Meats and Lard.—Production of meats from slaughter in Canada total supply, distribution and per capita disappearance of meats and lard are shown in Table 45. All estimates are on a cold carcass-weight basis except canned meats, which are in terms of product.

45.—Supply, Distribution and Disappearance of Meats and Lard, 1962-66

Item	1962	1963	1964 ¹	1965 ¹	1966
Beef—					
Animals slaughtered in Canada.....'000	2,503.6	2,653.6	2,925.1	3,287.9	3,232.
Estimated dressed weight.....'000 lb.	1,297,203	1,408,778	1,551,246	1,707,369	1,725,081
On hand, Jan. 1.....“	33,350	33,719	41,085	45,045	46,777
Imports for consumption.....“	37,555	37,617	27,348	18,514	25,422
Total Supply.....“	1,368,108	1,480,114	1,619,679	1,770,928	1,797,280
Exports.....“	27,656	25,564	42,770	102,293	78,755
Used for canning.....“	19,086	18,251	19,813	19,789	21,181
On hand, Dec. 31.....“	33,719	41,085	45,045	46,779	42,611
DOMESTIC DISAPPEARANCE.....'000 lb.	1,287,647	1,395,214	1,512,051	1,602,076	1,654,733
PER CAPITA DISAPPEARANCE.....lb.	69.2	73.7	78.5	81.7	82.
Veal—					
Animals slaughtered in Canada.....'000	990.1	1,049.6	1,091.5	1,317.2	1,123.
Estimated dressed weight.....'000 lb.	121,488	127,436	134,800	165,078	140,271
On hand, Jan. 1.....“	3,652	3,867	5,094	5,918	4,361
Imports for consumption.....“	1	1	1	1	1
Total Supply.....“	125,140	131,303	139,894	170,996	144,633
Exports.....“	1	1	1	1	1
Used for canning.....“	1,198	1,419	1,424	1,248	1,561
On hand, Dec. 31.....“	3,867	5,094	5,918	4,363	3,301

¹ Quantity small; included with beef.

45.—Supply, Distribution and Disappearance of Meats and Lard, 1962-66—concluded

Item	1962	1963	1964 ¹	1965 ¹	1966
Veal—concluded					
DOMESTIC DISAPPEARANCE..... '000 lb.	120,075	124,790	132,552	165,385	139,735
PER CAPITA DISAPPEARANCE..... lb.	6.5	6.6	6.9	8.4	7.0
Mutton and Lamb—					
Animals slaughtered in Canada..... '000	764.6	697.4	654.1	565.4	523.4
Estimated dressed weight..... '000 lb.	32,671	30,481	28,711	24,548	23,085
On hand, Jan. 1..... "	9,932	7,054	9,298	9,147	6,631
Imports for consumption..... "	37,587	47,856	37,356	30,299	55,643
Total Supply..... "	80,190	85,391	75,365	63,994	85,359
Exports..... "	556	679	757	370	613
Used for canning..... "	1,232	1,108	1,227	1,454	1,372
On hand, Dec. 31..... "	7,054	9,298	9,147	6,031	12,208
DOMESTIC DISAPPEARANCE..... '000 lb.	71,348	74,306	64,234	55,539	71,166
PER CAPITA DISAPPEARANCE..... lb.	3.8	3.9	3.3	2.8	3.6
Pork—					
Animals slaughtered in Canada..... '000	7,648.2	7,601.0	8,301.0	8,111.7	7,989.5
Estimated dressed weight..... '000 lb.	978,185	978,295	1,060,651	1,029,270	1,027,172
On hand, Jan. 1..... "	24,648	18,357	25,236	27,286	22,740
Imports for consumption..... "	35,002	89,465	53,758	37,222	28,262
Total Supply..... "	1,038,435	1,086,117	1,139,645	1,093,778	1,078,174
Exports..... "	47,922	47,420	53,959	58,029	48,479
Used for canning..... "	46,764	54,663	56,937	48,537	46,928
On hand, Dec. 31..... "	18,357	25,236	27,286	22,740	28,508
DOMESTIC DISAPPEARANCE..... '000 lb.	925,392	958,798	1,001,463	964,472	954,259
PER CAPITA DISAPPEARANCE..... lb.	49.8	50.7	52.0	49.2	47.7
Canned Meats—					
Estimated production..... '000 lb.	88,893	92,263	98,653	94,032	96,032
On hand, Jan. 1..... "	42,775	29,478	17,560	15,880	12,097
Imports for consumption..... "	12,405	16,407	13,780	15,142	19,644
Total Supply..... "	144,073	138,148	129,993	125,054	127,773
Exports..... "	16,487	21,991	8,324	6,107	4,886
On hand, Dec. 31..... "	29,478	17,560	15,880	12,097	12,406
DOMESTIC DISAPPEARANCE..... '000 lb.	98,108	98,597	105,789	106,850	110,481
PER CAPITA DISAPPEARANCE..... lb.	5.3	5.2	5.5	5.5	5.5
Offal—					
Estimated production..... '000 lb.	95,501	98,454	107,825	115,247	112,592
On hand, Jan. 1..... "	5,906	5,001	6,217	6,835	7,493
Imports for consumption..... "	3,997	4,743	2,850	2,048	1,997
Total Supply..... "	105,404	108,198	116,892	124,130	122,082
Exports..... "	20,410	23,911	34,013	45,201	39,918
Used for canning..... "	1,818	2,057	2,034	1,815	2,677
On hand, Dec. 31..... "	5,001	6,217	6,835	7,493	6,843
DOMESTIC DISAPPEARANCE..... '000 lb.	78,175	76,013	74,010	69,621	72,644
PER CAPITA DISAPPEARANCE..... lb.	4.2	4.0	3.8	3.6	3.6
Lard—²					
Estimated production..... '000 lb.	123,513	125,407	133,103	121,777	114,161
On hand, Jan. 1..... "	6,921	6,263	5,844	6,976	5,086
Imports for consumption..... "	24,784	17,073	16,001	20,734	24,727
Total Supply..... "	155,218	148,743	154,948	149,487	143,974
Exports..... "	32	23	34	31	228
On hand, Dec. 31..... "	6,263	5,844	6,976	5,086	5,998
DOMESTIC DISAPPEARANCE..... '000 lb.	148,923	142,876	147,938	144,370	137,748
PER CAPITA DISAPPEARANCE..... lb.	8.0	7.5	7.7	7.4	6.9

¹ Trimmed of larding fat and excluding offal.² Includes commercial lard production and estimated lard equivalent of renderable pork fat available from all uninspected slaughter.

Section 5.—Agricultural Statistics of the Census

This Section presents a limited amount of information from the 1966 Census of Agriculture; details are contained in Volumes III, IV and V of the 1966 Census of Canada. A list of the special and advance census reports that have been released is available on request.

Number of Census-Farms and Commercial Farms.—The number of census farms in Canada declined 10.5 p.c. from 480,903 in 1961 to 430,522 in 1966. On the other hand, the number of commercial farms increased 6.9 p.c. from 259,037 to 276,835 in the same comparison.

For both census years, 1961 and 1966, a census-farm was defined as a holding of one acre or more with sales of agricultural products valued at \$50 or more during the 12 months preceding the census date of June 1. In 1966, a commercial farm was defined as a census farm that had sales of agricultural products valued at \$2,500 or more during the 12 months preceding the census date; for the 1961 Census a census-farm was classed as commercial if it reported sales of agricultural products valued at \$1,200 or more. In Table 46, however for both census years the term commercial farm refers to census-farms having had sales of agricultural products during the previous 12 months valued at \$2,500 or more.

46.—Number of Census-Farms and Commercial Farms, by Province, Censuses of 1961 and 1966

Province or Territory	Census-Farms		Commercial Farms	
	1961	1966	1961	1966
	No.	No.	No.	No.
Newfoundland.....	1,752	1,709	281	30
Prince Edward Island.....	7,335	6,357	2,886	3,32
Nova Scotia.....	12,518	9,621	3,016	2,86
New Brunswick.....	11,786	8,706	3,073	2,63
Quebec.....	65,777	80,294	38,927	41,96
Ontario.....	121,333	109,887	69,667	70,72
Manitoba.....	43,306	39,747	24,286	27,37
Saskatchewan.....	93,924	85,686	63,546	69,96
Alberta.....	73,212	69,411	45,203	48,97
British Columbia.....	19,934	19,085	8,150	8,40
Yukon and Northwest Territories.....	26	19	2	
Canada.....	480,903	430,522	259,037	276,83

Farm Areas.—The total area of census-farms in 1966 was 174,124,828 acres, a 0.9 p.c. increase over the 172,551,051 acres recorded in 1961. All provinces east of Manitoba experienced decreases in total agricultural area but the four western provinces reported increases. For all of Canada, the percentage increase in improved land (4.6 p.c.) was identical to the percentage decrease in the acreage of unimproved land. The total improved land area increased from 103,403,426 acres in 1961 to 108,154,377 acres in 1966 and the total unimproved land area dropped from 69,147,625 to 65,970,451 acres. The increase in improved land reflected larger areas in crops and pasture in 1966, which more than offset a decrease of 9.2 p.c. in the acreage of summerfallow. The drop in unimproved land was accounted for almost entirely by a decrease in the area of woodland.

47.—Use of Agricultural Land, by Province, Censuses of 1961 and 1966

Item	Newfoundland		Prince Edward Island		Nova Scotia		New Brunswick	
	1961	1966	1961	1966	1961	1966	1961	1966
	acres	acres	acres	acres	acres	acres	acres	acres
Improved Land	20,455	20,566	579,558	569,799	497,521	485,859	734,107	635,649
Under crops ¹	12,919	12,409	391,112	398,373	329,114	314,143	482,548	427,832
Pasture (improved)	4,097	5,320	167,913	152,191	127,468	132,355	200,047	166,835
Summerfallow	145	258	2,532	2,896	2,654	2,587	5,648	5,822
Other	3,294	2,579	18,001	16,339	38,285	36,774	45,864	38,160
Unimproved Land	34,106	28,947	380,599	357,179	1,732,874	1,366,036	1,465,568	1,173,046
Woodland	19,802	13,750	296,759	279,681	1,362,869	1,084,273	1,230,861	973,888
Other	14,304	15,197	83,840	77,498	370,005	281,763	234,707	199,158
Totals, Agricultural Area	54,561	49,513	960,157	926,978	2,230,395	1,851,895	2,199,675	1,811,695
	Quebec		Ontario		Manitoba		Saskatchewan	
	1961	1966	1961	1966	1961	1966	1961	1966
	acres	acres	acres	acres	acres	acres	acres	acres
Improved Land	7,864,176	7,629,346	12,032,924	12,004,305	11,963,994	12,446,065	43,117,813	45,468,776
Under crops ¹	5,213,302	5,166,421	7,990,358	8,358,741	7,688,728	8,693,682	23,923,192	27,018,238
Pasture (improved)	2,312,950	2,121,141	3,295,609	2,935,693	719,819	770,519	1,394,280	1,909,653
Summerfallow	46,344	48,779	244,842	229,852	3,230,095	2,668,830	17,179,572	15,895,825
Other	291,580	293,005	502,115	480,019	325,352	313,034	620,769	645,060
Unimproved Land	6,334,316	5,256,723	6,545,583	5,821,740	6,205,957	6,637,752	21,297,705	19,940,587
Woodland	4,501,305	3,777,489	3,257,589	2,834,417	1,490,673	1,212,959	2,194,920	1,347,741
Other	1,833,011	1,479,234	3,287,994	2,987,323	4,715,284	5,424,793	19,102,785	18,592,846
Totals, Agricultural Area	14,198,492	12,886,069	18,578,507	17,826,045	18,169,951	19,083,817	64,415,518	65,409,363
	Alberta		British Columbia		Yukon and Northwest Territories		Canada	
	1961	1966	1961	1966	1961	1966	1961	1966
	acres	acres	acres	acres	acres	acres	acres	acres
Improved Land	25,288,527	27,276,251	1,303,263	1,614,141	1,088	620	103,403,426	108,154,377
Under crops ¹	15,614,839	17,707,659	788,896	955,287	526	219	62,435,534	69,053,004
Pasture (improved)	1,670,391	2,310,945	354,830	436,920	492	168	10,247,896	10,941,740
Summerfallow	7,449,758	6,659,125	81,785	117,684	11	25	28,243,386	25,631,683
Other	553,539	598,522	77,752	104,250	59	208	2,476,610	2,527,950
Unimproved Land	21,940,126	21,706,624	3,203,289	3,678,169	7,502	3,648	69,147,625	65,970,451
Woodland	2,138,137	1,859,257	752,990	799,935	1,484	534	17,247,389	14,183,924
Other	19,801,989	19,847,367	2,450,299	2,878,234	6,018	3,114	51,900,236	51,786,527
Totals, Agricultural Area	47,228,653	48,982,875	4,506,552	5,292,310	8,590	4,268	172,551,051	174,124,828

¹ Includes field, vegetable, fruit and nursery crop land.

Economic Classification of Census-Farms.—The economic classification of census-farms was determined by the value of agricultural products sold. Commercial farms (excluding institutional type farms), were defined as census-farms reporting sales of

agricultural products of \$2,500 or more during the 12 months preceding the census date of June 1, 1966. They were subdivided into eight classes according to the total value of products sold. Small-scale farms were divided into three sub-groups according to the value of products sold—\$1,200 to \$2,499; \$250 to \$1,199; and \$50 to \$249. The group classified as institutional farms, etc., includes experimental farms, community pastures, Indian reserve farms and institutional-type farms regardless of the amount of sales of agricultural products.

48.—Economic Classification of Farms, by Province, Censuses of 1961 and 1966

Economic Class	Newfoundland		Prince Edward Island		Nova Scotia		New Brunswick	
	1961	1966	1961	1966	1961	1966	1961	1966
	No.	No.	No.	No.	No.	No.	No.	No.
Commercial Farms	281	301	2,886	3,323	3,016	2,867	3,073	2,938
Value of Products Sold of—								
\$35,000 or over.....	37	33	52	97	160	159	133	167
25,000—\$34,999.....		19		74		91		118
15,000—24,999.....	27	38	79	225	191	262	188	315
10,000—14,999.....	29	31	184	385	282	399	276	334
7,500—9,999.....		30		407		322		346
5,000—7,499.....	76	47	895	744	936	525	985	532
3,750—4,999.....	31	38	701	600	525	445	540	424
2,500—3,749.....	81	65	975	796	922	664	951	702
Small-Scale Farms	1,463	1,403	4,441	3,020	9,469	6,726	8,685	5,751
Value of Products Sold of—								
\$1,200—\$2,499.....	175	131	1,644	1,127	1,923	1,410	2,043	1,464
250—1,199.....	624	541	1,953	1,274	4,551	3,149	4,089	2,588
50—249.....	664	731	844	619	2,995	2,167	2,553	1,699
Institutional Farms, etc.	8	5	8	9	33	28	28	17
Totals, Census-Farms.	1,752	1,709	7,335	6,357	12,518	9,621	11,786	8,706
	Quebec		Ontario		Manitoba		Saskatchewan	
	1961	1966	1961	1966	1961	1966	1961	1966
	No.	No.	No.	No.	No.	No.	No.	No.
Commercial Farms	38,927	41,961	69,667	70,724	24,236	27,372	63,546	69,962
Value of Products Sold of—								
\$35,000 or over.....	550	799	4,811	4,385	386	630	681	1,093
25,000—\$34,999.....		643		3,733		585		1,789
15,000—24,999.....	952	2,345	5,781	9,692	868	2,556	2,299	8,571
10,000—14,999.....	2,369	4,156	8,598	11,522	1,971	4,452	5,981	13,616
7,500—9,999.....		4,761		9,210		4,238		11,496
5,000—7,499.....	11,851	9,644	23,901	13,173	8,966	6,409	24,290	15,576
3,750—4,999.....	8,652	8,105	11,442	8,489	5,297	3,933	13,227	8,614
2,500—3,749.....	14,553	11,508	15,134	10,520	6,798	4,569	17,068	9,219
Small-Scale Farms	56,655	38,185	51,573	39,081	18,980	12,336	30,164	15,468
Value of Products Sold of—								
\$1,200—\$2,499.....	23,570	15,651	20,678	14,377	9,236	5,760	18,739	9,145
250—1,199.....	22,138	14,120	19,291	14,410	6,965	4,235	8,791	4,278
50—249.....	10,947	8,414	11,604	10,294	2,779	2,341	2,634	2,042
Institutional Farms, etc.	195	148	93	82	40	39	214	253
Totals, Census-Farms.	95,777	80,294	121,333	109,887	43,306	39,747	93,924	85,686

48.—Economic Classification of Farms, by Province, Censuses of 1961 and 1966—concluded

Economic Class	Alberta		British Columbia		Yukon and N.W.T.		Canada	
	1961	1966	1961	1966	1961	1966	1961	1966
	No.	No.	No.	No.	No.	No.	No.	No.
Commercial Farms.....	45,203	48,971	8,150	8,407	2	4	259,037	276,835
Value of Products Sold of—								
\$35,000 or over.....	1,979	2,195	718	724	—	—	9,507	10,282
25,000—\$34,999.....	—	1,876	—	456	—	—	—	9,384
15,000—24,999.....	3,155	5,909	871	1,236	—	—	14,411	31,149
10,000—14,999.....	5,076	8,012	1,157	1,314	—	2	25,923	44,217
7,500—9,999.....	15,976	6,987	2,543	956	—	—	90,419	38,753
5,000—7,499.....	—	10,130	—	1,329	—	—	—	58,103
3,750—4,999.....	8,207	6,328	1,131	947	1	—	49,754	37,923
2,500—3,749.....	10,810	7,534	1,730	1,445	1	2	69,023	47,024
Small-Scale Farms.....	27,847	20,279	11,756	10,650	19	10	221,052	152,910
Value of Products Sold of—								
\$1,200—\$2,499.....	13,495	9,362	2,752	2,513	1	3	94,256	60,947
250—1,199.....	9,740	6,599	4,793	4,071	11	6	82,946	55,271
50—249.....	4,612	4,318	4,211	4,066	7	1	43,850	36,692
Institutional Farms, etc.	162	161	28	28	5	5	814	777
Totals, Census-Farms	73,212	69,411	19,934	19,085	26	19	480,903	430,522

Type of Commercial Farms.—Commercial farms in the 1966 Census (census-farms reporting \$2,500 or more sales of agricultural products) are classified by product type in Table 49. A criterion of 51 p.c. or more of total sales was used for this classification. For example, a census-farm was typed as a poultry farm if 51 p.c. or more of the total agricultural sales for the farm was obtained from the sale of poultry products. However, it was classed as a dairy-type farm if 40 p.c. to 50 p.c. of total sales was obtained from dairy products, provided the sale of dairy products together with the sale of cattle and calves amounted to 51 p.c. or more of the total sales.

49.—Commercial Farms classified by Type of Farm, by Province, Census 1966

Type of Farm	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	No.	No.	No.	No.	No.	No.
Dairy.....	75	388	1,290	957	26,609	21,159
Cattle, hogs, sheep (excl. dairy farms).....	41	752	553	475	5,945	28,909
Poultry.....	72	33	238	150	1,714	2,179
Wheat.....	—	—	—	—	2	137
Small grains (excl. wheat farms).....	—	8	—	7	156	4,862
Field crops, other than small grains.....	70	1,226	63	842	1,449	4,488
Fruits and vegetables.....	6	44	290	85	1,313	3,920
Forestry.....	2	6	100	76	180	118
Miscellaneous specialty.....	21	9	82	33	470	1,399
Mixed.....	14	862	251	313	4,123	3,653
Livestock combination.....	2	700	147	214	3,137	2,205
Field crops combination.....	—	24	1	13	125	642
Other combinations.....	12	138	103	86	861	806
Totals, Commercial Farms.....	301	3,328	2,867	2,938	41,961	70,724

49.—Commercial Farms classified by Type of Farm, by Province, Census 1966—concluded

Type of Farm	Man.	Sask.	Alta.	B.C.	Y.T. and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Dairy.....	1,240	592	2,089	2,061	—	56,480
Cattle, hogs, sheep (excl. dairy farms).....	5,488	6,605	20,418	1,850	—	70,936
Poultry.....	542	173	402	796	—	6,299
Wheat.....	8,198	51,650	11,238	188	—	71,413
Small grains (excl. wheat farms).....	8,307	7,746	8,250	406	—	29,742
Field crops, other than small grains.....	340	63	897	358	2	9,796
Fruits and vegetables.....	66	3	39	1,726	—	7,492
Forestry.....	4	2	10	131	—	629
Miscellaneous specialty.....	218	133	341	602	1	3,309
Mixed.....	2,969	2,995	5,287	289	1	20,757
Livestock combination.....	1,943	1,709	3,081	81	—	13,219
Field crops combination.....	518	357	1,266	99	—	3,035
Other combinations.....	508	929	960	109	1	4,603
Totals, Commercial Farms.....	27,372	69,962	48,971	8,407	4	276,835

Size of Census-Farms.—Census-farms are classified by size and by province in Table 50. Almost 53 p.c. of the census-farms of Canada contained fewer than 240 acres in 1966. However, there was a wide variation among the provinces: in the Atlantic Provinces, 77.4 p.c. of the census-farms were under 240 acres in size; in Quebec and Ontario 81.6 p.c. were under 240 acres; in the Prairie Provinces only 19.1 p.c. fell into this category; and in British Columbia the proportion was 79.1 p.c.

50.—Census-Farms classified by Size and by Province, Census 1966

Size of Farm	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	No.	No.	No.	No.	No.	No.
Under 3 acres.....	363	40	173	73	416	1,794
3—9 acres.....	590	96	337	131	1,009	4,078
10—69 “.....	590	1,037	1,639	1,089	10,203	17,930
70—239 “.....	144	4,337	4,915	4,879	54,789	64,959
240—399 “.....	12	658	1,546	1,576	10,735	14,683
400—559 “.....	5	137	594	589	2,355	4,080
560—759 “.....	1	31	231	193	532	1,450
760—1,119 “.....	2	15	134	121	187	662
1,120—1,599 “.....	—	2	34	31	46	170
1,600 acres and over.....	2	4	18	24	22	81
Totals, Census-Farms.....	1,709	6,357	9,621	8,706	80,294	109,887
	Man.	Sask.	Alta.	B.C.	Y.T. and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Under 3 acres.....	228	197	323	1,083	2	4,692
3—9 acres.....	594	315	792	3,575	1	11,518
10—69 “.....	1,911	868	2,298	7,212	4	44,781
70—239 “.....	8,139	8,858	12,648	3,217	8	166,893
240—399 “.....	10,147	16,226	16,473	1,169	1	73,226
400—559 “.....	7,085	14,553	10,966	731	—	41,095
560—759 “.....	5,271	14,488	8,662	599	1	31,459
760—1,119 “.....	3,980	15,906	8,219	597	1	29,824
1,120—1,599 “.....	1,553	8,446	4,464	406	1	15,153
1,600 acres and over.....	839	5,829	4,566	496	—	11,881
Totals, Census-Farms.....	39,747	85,686	69,411	19,085	19	430,522

Tenure and Age of Census-Farm Operators.—The proportion of census-farm operators owning all or part of their land increased from 94 p.c. in 1961 to 95 p.c. in 1966 and, as a consequence, the percentage of census-farms operated entirely on a rented basis

decreased. The proportion of census-farm operators under 35 years of age decreased from 17 p.c. in 1961 to 15 p.c. in 1966. Conversely, the proportion of operators from 45 to 54 years of age increased from 27 p.c. to 28 p.c. and the proportion of those 55 years of age or older increased from 32 p.c. to 33 p.c.

51.—Tenure and Age of Operators, Censuses of 1961 and 1966

Tenure and Age	Newfoundland		Prince Edward Island		Nova Scotia		New Brunswick	
	1961	1966	1961	1966	1961	1966	1961	1966
	No.	No.	No.	No.	No.	No.	No.	No.
Tenure of Operator—								
Owner (incl. manager)...	1,574	1,538	6,326	5,118	11,309	8,366	10,538	7,403
Tenant.....	29	27	64	84	85	109	115	110
Part owner, part tenant..	149	144	945	1,155	1,124	1,146	1,133	1,193
Age of Operator—								
Under 25 years.....	30	19	172	132	132	82	132	94
25—34 “.....	145	153	867	789	951	742	1,046	719
35—44 “.....	417	326	1,479	1,266	2,455	1,640	2,588	1,643
45—54 “.....	528	569	1,936	1,668	3,389	2,690	3,274	2,596
55—59 “.....	211	243	811	803	1,591	1,280	1,454	1,174
60—64 “.....	165	166	761	600	1,387	1,131	1,204	992
65—69 “.....	115	120	607	510	1,081	879	901	642
70 years or over.....	141	113	702	589	1,532	1,177	1,187	846
Totals, Census-Farms	1,752	1,709	7,335	6,357	12,518	9,621	11,786	8,706
	Quebec		Ontario		Manitoba		Saskatchewan	
	1961	1966	1961	1966	1961	1966	1961	1966
	No.	No.	No.	No.	No.	No.	No.	No.
Tenure of Operator—								
Owner (incl. manager)...	88,018	71,265	97,829	86,380	28,266	26,345	48,716	47,877
Tenant.....	1,253	1,062	5,610	4,594	3,459	2,331	9,521	6,168
Part owner, part tenant..	6,506	7,967	17,894	18,913	11,581	11,071	35,687	31,641
Age of Operator—								
Under 25 years.....	2,508	1,506	2,349	1,865	1,167	931	3,342	2,634
25—34 “.....	14,617	11,210	15,564	13,037	6,130	5,171	14,705	11,888
35—44 “.....	25,187	20,350	28,074	25,442	11,132	9,436	24,315	20,599
45—54 “.....	26,555	23,282	31,859	29,199	11,861	11,483	24,251	24,067
55—59 “.....	10,483	9,571	14,796	13,380	4,775	4,899	9,694	10,025
60—64 “.....	7,960	6,930	12,184	11,459	3,727	3,739	7,089	7,515
65—69 “.....	4,672	4,137	8,239	7,884	2,390	2,236	5,328	4,540
70 years or over.....	3,795	3,308	8,268	7,621	2,124	1,852	5,200	4,418
Totals, Census-Farms	95,777	80,294	121,333	109,887	43,306	39,747	93,924	85,686
	Alberta		British Columbia		Yukon and Northwest Territories		Canada	
	1961	1966	1961	1966	1961	1966	1961	1966
	No.	No.	No.	No.	No.	No.	No.	No.
Tenure of Operator—								
Owner (incl. manager)...	43,765	43,568	16,469	15,283	14	13	352,824	313,156
Tenant.....	6,723	4,569	832	711	5	4	27,696	19,769
Part owner, part tenant..	22,724	21,274	2,633	3,091	7	2	100,333	97,597
Age of Operator—								
Under 25 years.....	2,313	1,916	209	230	—	—	12,354	9,409
25—34 “.....	11,882	10,460	2,114	2,028	5	4	68,026	56,201
35—44 “.....	18,639	17,244	4,645	4,603	12	5	118,943	102,554
45—54 “.....	18,739	18,516	5,512	5,310	1	6	127,905	119,386
55—59 “.....	8,416	7,949	2,652	2,326	—	—	54,887	51,650
60—64 “.....	6,105	6,555	1,884	2,026	4	2	42,466	41,115
65—69 “.....	3,747	3,857	1,329	1,243	2	—	28,411	26,048
70 years or over.....	3,371	2,914	1,589	1,319	2	2	27,911	24,159
Totals, Census-Farms	73,212	69,411	19,934	19,085	26	19	480,903	430,522

Farm Machinery.—Except for the number of automobiles, which showed a slight decrease, all machinery items listed in Table 52 increased between 1961 and 1966. Although the number of census-farms decreased by 10.5 p.c., the numbers of trucks, hay balers, and forage crop harvesters on census-farms increased by 14.2 p.c., 53.0 p.c. and 45.1 p.c., respectively.

52.—Farm Machinery, by Province, Censuses of 1961 and 1966

Item and Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	No.	No.	No.	No.	No.	No.
Automobiles.....1961	323	4,713	6,618	6,872	55,385	110,773
.....1966	426	5,026	5,700	5,869	56,464	104,539
Motor trucks.....1961	715	3,253	5,965	4,657	26,597	62,812
.....1966	764	3,306	5,393	4,404	24,499	67,622
Tractors.....1961	462	5,713	7,074	8,102	70,697	150,046
.....1966	519	6,341	7,252	7,989	81,674	162,303
Grain combines.....1961	2	644	154	770	3,046	22,387
.....1966	—	1,020	252	965	6,108	25,372
Pick-up hay balers.....1961	29	1,047	1,419	1,586	13,212	28,061
.....1966	53	1,806	2,128	2,300	24,574	38,201
Forage crop harvesters.....1961	6	74	158	158	1,551	8,945
.....1966	9	90	175	166	3,705	11,567
	Man.	Sask.	Alta.	B.C.	Y.T. and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Automobiles.....1961	34,619	72,152	52,167	14,322	7	357,951
.....1966	35,800	72,571	53,171	16,381	10	355,957
Motor trucks.....1961	31,806	82,669	71,508	12,004	26	302,012
.....1966	36,689	102,470	85,559	14,116	14	344,836
Tractors.....1961	61,463	126,613	102,624	16,974	21	549,789
.....1966	65,552	134,908	112,245	19,676	24	598,483
Grain combines.....1961	23,662	65,084	38,530	1,331	1	155,611
.....1966	24,815	67,144	42,838	1,667	1	170,182
Pick-up hay balers.....1961	8,573	17,283	15,632	2,679	1	89,522
.....1966	12,712	26,155	25,161	3,858	6	136,954
Forage crop harvesters.....1961	1,175	1,429	2,059	1,208	1	16,764
.....1966	1,591	2,203	3,237	1,573	1	24,317

Farm Electrification.—The proportion of census-farms reporting electric power increased in all provinces between 1961 and 1966, although, because of the smaller number of census-farms in 1966, there was a decrease in the total number reporting electric power. The largest percentage increase occurred in Newfoundland where the proportion moved from 65.8 p.c. to 84.4 p.c. In Prince Edward Island the proportion of census-farms reporting electric power increased from 78.1 p.c. to 89.6 p.c. and for all Canada it increased from 85.2 p.c. to 88.7 p.c. If the number of non-resident census-farms were subtracted from the total, the proportion reporting electric power in 1966 would be 96.6 p.c.; this is especially significant in Saskatchewan where almost 20 p.c. of all census-farms are non-resident farms.

53.—Farm Electrification, by Province, Censuses of 1951, 1961 and 1966

Province or Territory	1951		1961		1966	
	Farms Reporting Electric Power	P.C. of All Farms	Farms Reporting Electric Power	P.C. of All Farms	Farms Reporting Electric Power	P.C. of All Farms
	No.		No.		No.	
Newfoundland.....	1,383	38.1	1,152	65.8	1,443	84.4
Prince Edward Island.....	2,226	22.0	5,728	78.1	5,693	89.6
Nova Scotia.....	16,733	71.2	11,953	95.5	9,272	96.4
New Brunswick.....	15,988	60.3	11,371	96.5	8,419	96.7
Quebec.....	90,209	67.2	93,197	97.3	78,605	97.9
Ontario.....	110,595	73.8	115,453	95.2	105,519	96.0
Manitoba.....	25,208	48.1	39,081	90.2	36,160	91.0
Saskatchewan.....	18,213	16.3	61,626	65.6	63,339	73.9
Alberta.....	20,709	24.6	52,936	72.3	56,189	81.0
British Columbia.....	18,168	68.8	17,370	87.1	17,299	90.6
Yukon and Northwest Territories.....	1	25.0	15	57.7	12	63.2
Canada.....	319,383	51.3	409,882	85.2	381,950	88.7

Farm Capital.—The total capital value of census-farms in Canada increased by 44.8 p.c. between 1961 and 1966, reflecting increases of 52.8 p.c. in the value of land and buildings, 38.3 p.c. in machinery and equipment, and 18.6 p.c. in livestock and poultry.

54.—Farm Capital, by Province, Censuses of 1961 and 1966

Province or Territory and Year		Value of Land and Buildings	Value of Machinery and Equipment	Value of Livestock and Poultry	Total Capital Value
		\$	\$	\$	\$
Newfoundland.....	1961	19,006,200	2,944,500	1,986,700	23,937,400
	1966	24,030,300	3,454,700	2,868,400	30,353,400
Prince Edward Island.....	1961	52,500,800	26,856,300	16,939,400	96,296,500
	1966	72,682,600	35,655,400	20,282,700	128,620,700
Nova Scotia.....	1961	89,262,800	30,252,100	26,073,900	145,588,800
	1966	102,849,400	34,443,700	26,492,000	163,785,100
New Brunswick.....	1961	90,114,800	31,682,200	23,566,000	145,363,000
	1966	91,628,500	36,824,900	22,325,500	150,778,900
Quebec.....	1961	1,014,681,500	301,257,000	308,941,100	1,624,879,600
	1966	1,159,021,200	373,979,600	350,868,900	1,883,869,700
Ontario.....	1961	2,572,302,700	579,281,700	590,011,600	3,741,596,000
	1966	3,451,145,600	758,397,800	674,586,200	4,884,129,600
Manitoba.....	1961	719,612,000	272,018,900	162,456,700	1,154,087,600
	1966	1,178,177,500	380,352,500	198,839,100	1,757,369,100
Saskatchewan.....	1961	1,856,523,300	686,825,700	321,010,300	2,864,359,300
	1966	3,500,966,300	1,020,618,300	389,851,900	4,911,436,500
Alberta.....	1961	1,715,367,200	550,875,500	451,254,100	2,717,496,800
	1966	2,865,472,200	785,031,700	565,115,700	4,215,619,600
British Columbia.....	1961	493,030,800	86,487,700	77,647,800	657,166,300
	1966	727,878,100	123,543,500	97,688,400	949,110,000
Yukon and Northwest Territories.....	1961	239,200	149,900	61,300	450,400
	1966	112,500	109,300	26,200	248,000
Canada.....	1961	8,622,641,300	2,568,631,500	1,979,948,900	13,171,221,700
	1966	13,173,964,200	3,552,411,400	2,348,945,000	19,075,320,600

Section 6.—International Crop Statistics

Tables 55 and 56 are based on estimates published in March and April 1967 by the Foreign Agricultural Service, United States Department of Agriculture, and give the acreages and production of wheat and the production of oats and barley for the harvests of 1965 and 1966 with average for the years 1960-64, in the leading countries of the world.

55.—Estimated Acreages and Production of Wheat Harvested in 1965 and 1966 in Specified Countries, with Average for 1960-64

Continent and Country	Acreages of Wheat			Production of Wheat		
	Average 1960-64	1965	1966	Average 1960-64	1965	1966
	'000	'000	'000	'000,000 bu.	'000,000 bu.	'000,000 bu.
North America¹	77,325	80,015	81,806	1,819.0	2,029.0	2,213.1
Canada.....	26,785	28,282	30,298	538.2	648.9	844.4
Mexico.....	1,971	2,056	1,569	57.9	73.5	57.0
United States.....	48,481	49,560	49,843	1,221.9	1,315.6	1,310.6
Europe¹	70,123	71,059	68,666	2,068.1	2,472.1	2,292.7
Europe West ¹	45,416	46,428	43,523	1,434.6	1,665.2	1,466.0
Austria.....	683	681	775	26.2	24.3	33.0
Belgium.....	513	562	525	29.3	31.4	23.9
Britain.....	2,064	2,535	2,240	121.0	153.3	130.5
Denmark.....	299	314	232	17.9	20.7	14.3
Finland.....	598	660	516	15.5	18.4	13.6
France.....	10,459	11,171	9,862	431.6	542.3	414.2
Germany, West.....	3,430	3,489	3,431	173.8	159.7	166.6
Greece.....	2,690	2,776	2,515	63.3	73.4	72.1
Italy.....	11,009	10,602	10,561	303.5	359.2	345.6
Luxembourg.....	48	45	47	1.7	1.7	1.4
Netherlands.....	326	392	366	21.4	25.4	22.0
Norway.....	21	10	4	0.8	0.4	0.1
Portugal.....	1,754	1,552	1,211	19.3	22.5	11.2
Spain.....	10,251	10,512	10,380	151.4	173.2	176.9
Sweden.....	713	684	466	30.9	38.1	21.5
Switzerland.....	258	256	259	12.6	12.3	11.8
Europe East ²	24,707	24,631	25,143	633.4	806.9	826.7
Albania.....	273	—	—	3.4	—	—
Bulgaria.....	3,057	2,829	2,820	77.2	107.3	116.6
Czechoslovakia.....	1,739	2,041	2,125	61.8	73.2	79.0
Germany, East.....	1,027	1,213	1,186	47.3	66.2	61.7
Hungary.....	2,594	2,674	2,518	67.9	86.2	77.9
Poland.....	3,626	4,102	4,225	102.4	125.7	127.5
Romania.....	7,256	7,371	7,497	140.5	218.1	191.1
Yugoslavia.....	5,135	4,151	4,522	132.9	127.1	169.8
U.S.S.R. (Europe and Asia) ²	160,000	173,500	172,000	1,837.2	1,700.0	2,755.0
Asia¹	144,092	146,777	143,628	1,878.3	2,047.2	1,877.4
Afghanistan.....	5,700	5,800	5,800	80.8	83.8	74.3
China, Mainland.....	62,500	61,800	60,500	760.6	808.4	738.5
Cyprus.....	178	162	152	2.0	2.9	2.1
India.....	33,123	33,260	31,624	397.2	451.6	393.9
Iran.....	4,925	5,000	5,300	100.7	106.6	117.2
Iraq.....	3,060	—	—	26.4	31.5	20.2
Israel.....	128	178	203	2.5	5.5	3.0
Japan.....	1,475	1,176	1,014	50.7	47.3	37.6
Jordan.....	604	689	620	4.9	10.2	3.7
Lebanon.....	142	146	160	1.4	2.0	2.2
Pakistan.....	12,301	13,272	13,167	149.4	169.9	145.9
Syria.....	2,750	3,000	2,800	26.7	33.1	14.7
Turkey.....	16,000	17,600	17,700	256.5	273.0	301.3
Africa¹	17,526	19,075	16,270	209.0	222.9	175.3
Algeria.....	4,641	5,416	3,656	46.7	48.6	26.5
Kenya.....	265	300	325	4.6	4.9	5.7
Morocco.....	3,900	4,095	4,043	38.0	48.4	29.8
South Africa, Republic of.....	2,830	3,130	2,600	31.7	24.5	20.5

For footnotes, see end of table.

55.—Estimated Acreages and Production of Wheat Harvested in 1965 and 1966 in Specified Countries, with Average for 1960-64—concluded

Continent and Country	Acreages of Wheat			Production of Wheat		
	Average 1960-64	1965	1966	Average 1960-64	1965	1966
	'000	'000	'000	'000,000 bu.	'000,000 bu.	'000,000 bu.
Africa—concluded						
Sudan.....	47	141	141	1.1	2.1	2.3
Tunisia.....	2,661	2,726	2,088	15.9	19.1	12.9
United Arab Republic.....	1,440	1,427	1,495	55.3	58.8	59.5
South America¹	17,378	16,106	17,902	347.8	315.0	326.8
Argentina.....	11,651	11,349	13,093	263.2	227.8	246.2
Brazil.....	1,395	768	—	9.0	8.5	12.9
Chile.....	2,090	1,938	1,829	44.6	43.0	40.8
Colombia.....	350	297	272	4.6	5.1	4.6
Ecuador.....	166	156	161	2.3	2.0	2.1
Peru.....	377	370	370	5.5	5.4	5.1
Uruguay.....	1,107	979	929	15.6	20.1	11.9
Oceania¹	16,002	17,711	20,733	314.0	270.1	459.7
Australia.....	15,805	17,515	20,517	304.9	259.7	448.5
New Zealand.....	197	156	216	9.1	10.4	11.2
World Totals¹	502,450	524,200	521,000	8,473.0	9,075.0	10,100.0

¹ Estimated totals include allowances for any missing data for countries shown and for other producing countries not shown. ² Tentative unofficial acreage and production estimates.

56.—Estimated Production of Oats and Barley Harvested in 1965 and 1966 in Specified Countries, with Average for 1960-64

Continent and Country	Oats			Barley		
	Average 1960-64	1965	1966	Average 1960-64	1965	1966
	'000 bu.	'000 bu.	'000 bu.	'000,000 bu.	'000,000 bu.	'000,000 bu.
North America¹	1,342.2	1,373.4	1,216.7	585.4	615.0	690.8
Canada.....	397.3	415.0	388.7	171.9	214.6	292.9
Mexico.....	4.8	5.6	5.6	7.8	7.9	8.1
United States.....	939.9	926.9	798.1	405.6	392.3	389.6
Europe¹	1,141.2	1,106.4	1,113.0	1,461.5	1,737.1	1,840.6
Europe West ¹	797.5	793.6	794.4	1,153.3	1,389.4	1,485.1
Austria.....	21.8	18.9	22.4	26.5	24.0	32.4
Belgium.....	27.1	21.0	20.2	21.0	23.9	22.1
Britain.....	110.6	84.9	78.1	270.6	376.2	410.8
Denmark.....	44.9	53.7	59.5	148.9	189.5	190.2
Finland.....	54.9	70.3	60.7	14.4	23.0	27.4
France.....	169.9	172.9	176.7	286.6	338.9	342.3
Germany, West.....	143.4	141.4	161.2	157.7	154.5	177.7
Greece.....	9.7	12.2	12.0	11.4	18.9	29.0
Ireland.....	24.3	21.8	20.0	24.3	26.3	28.0
Italy.....	34.0	36.3	32.9	12.2	13.1	11.6
Luxembourg.....	2.4	2.1	2.5	0.9	1.0	1.2
Netherlands.....	27.6	25.0	24.6	17.2	17.1	19.1
Norway.....	8.9	7.8	6.3	19.4	22.3	18.6
Portugal.....	5.1	6.8	4.7	2.6	3.3	2.3
Spain.....	29.2	24.5	28.8	86.9	86.9	100.3
Sweden.....	81.0	92.3	81.6	48.2	66.0	66.5
Switzerland.....	2.8	1.9	1.9	4.5	4.4	4.6
Europe East¹	343.7	312.8	318.6	308.2	347.7	355.5
Bulgaria.....	10.6	7.6	11.7	29.5	40.2	48.9
Czechoslovakia.....	56.4	43.4	51.1	74.6	64.3	72.9
Germany, East.....	58.4	52.2	55.8	55.8	75.8	70.3

For footnotes, see end of table.

**56.—Estimated Production of Oats and Barley Harvested in 1965 and 1966
in Specified Countries, with Average for 1960-64—concluded**

Continent and Country	Oats			Barley		
	Average 1960-64	1965	1966	Average 1960-64	1965	1966
	'000 bu.	'000 bu.	'000 bu.	'000,000 bu.	'000,000 bu.	'000,000 bu.
Europe—concluded						
Europe East—concluded						
Hungary.....	8.0	4.3	5.0	44.1	46.5	42.1
Poland.....	175.3	173.1	160.0	61.6	67.0	66.8
Romania.....	12.1	8.5	8.3	18.3	22.3	21.6
Yugoslavia.....	22.7	23.3	26.7	24.2	31.3	32.8
U.S.S.R. (Europe and Asia) ²	425.3	316.9	447.8	740.2	872.7	1,125.3
Asia¹	97.3	96.5	95.8	841.9	828.1	806.5
Afghanistan.....	—	—	—	17.4	17.5	17.2
Cyprus.....	—	—	—	3.4	6.3	3.9
India.....	—	—	—	120.8	115.9	104.9
Iran.....	—	—	—	43.6	45.9	45.9
Iraq.....	—	—	—	41.2	43.6	32.2
Israel.....	—	—	—	3.0	3.1	0.7
Japan.....	9.8	9.4	8.5	73.2	56.7	50.8
Korea, Republic of.....	—	—	—	43.7	65.4	92.8
Pakistan.....	—	—	—	6.2	6.0	4.4
Syria.....	—	—	—	24.9	23.0	6.9
Turkey.....	30.0	31.0	31.0	152.0	142.4	160.8
Africa¹	11.0	9.6	7.9	90.0	87.7	39.2
Algeria.....	—	—	—	24.1	17.4	6.2
Morocco.....	1.0	1.2	0.8	51.2	54.6	23.2
South Africa, Republic of.....	7.5	7.1	6.4	1.7	1.4	1.3
Tunisia.....	—	—	—	6.3	8.3	3.7
United Arab Republic.....	—	—	—	6.5	6.0	4.7
South America¹	61.0	47.9	50.6	59.0	42.7	45.7
Argentina.....	48.5	33.1	37.9	34.6	18.6	21.0
Chile.....	8.1	8.0	8.2	5.6	6.4	7.0
Colombia.....	—	—	—	5.0	4.4	4.6
Ecuador.....	—	—	—	3.6	3.4	3.4
Peru.....	—	—	—	8.5	8.5	8.0
Uruguay.....	4.2	6.7	4.3	1.6	1.3	1.5
Oceania	82.3	78.8	99.6	53.4	48.8	60.7
Australia.....	79.6	75.9	97.0	48.9	43.6	54.7
New Zealand.....	2.7	2.9	2.6	4.5	5.2	6.0
World Totals¹	3,160.4	3,029.6	3,031.4	3,831.4	4,232.0	4,609.0

¹ Estimated totals include allowances for any missing data for countries shown and for other producing countries not shown. ² Tentative unofficial production estimates.

CHAPTER XII.—FORESTRY*

CONSPECTUS

	PAGE		PAGE
SECTION 1. FOREST RESOURCES.....	538	SECTION 4. FOREST ADMINISTRATION, RE-	
SECTION 2. FOREST DEPLETION.....	542	SEARCH AND CONSERVATION.....	551
SECTION 3. STATISTICS OF FOREST AND ALLIED		Subsection 1. Federal Forestry Program...	551
INDUSTRIES.....	545	Subsection 2. Provincial Forestry Programs	555
Subsection 1. Woods Operations.....	545	Subsection 3. The Pulp and Paper Research	
Subsection 2. Wood Industries.....	546	Institute of Canada.....	563
Subsection 3. Paper and Allied Industries..	548		

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Canada's extensive forests have been an invaluable asset to the country and its people since the earliest days of settlement. The productive portion of these forests has poured increasing wealth into the stream of national income, contributing to the economy of the country as the producer of raw materials for industry and as the source of livelihood for hundreds of thousands of persons. Perhaps in no other country is the national wealth so dependent upon its forest resources and the success of its forest industries as in Canada. The annual forest harvest of some 3,424,000,000 cu. ft. supports a highly complex and diversified export and domestic industry directly employing more than 300,000 persons and paying out \$1,200,000,000 annually in salaries and wages. The forests support 8,000 sawmills and 4,000 wood-using plants, many of them small units contributing appreciably to the income of local economies. The pulp and paper industry alone stands first among Canadian manufactures in terms of employment, wages paid, new investment and net value of output, and the sale of forest products abroad represents about 27 p.c. of the value of Canada's export trade.

The predominant part played by the pulp and paper, lumber and other forest products industries in the development of the country and in its current economy has resulted in a widespread tendency to evaluate the forest in terms of timber alone. But equally important is the fact that the existence of widespread forest cover, productive or unproductive in the sense of human utilization, remains essential to the maintenance of the balance of nature—in protecting water-catchment areas and assuring supplies of water, in lowering the temperature, reducing the velocity of the wind and protecting the land against drought and erosion, and in providing shelter for birds and animals. It is reassuring that a growing realization of the economic importance of the forest for its non-commercial values, including recreation and wildlife and watershed protection, is bringing about increasing recognition of the true value of the forest and is thus developing a broader concept of forestry.

* Sections of this Chapter that deal with forest resources and depletion and the federal forestry program were revised by the Department of Forestry and Rural Development, Ottawa. Provincial forestry programs were prepared by the forestry officials of the respective provincial governments. Sections dealing with forest and allied industries, except as otherwise noted, were revised in the Forestry Section, Industry Division, Dominion Bureau of Statistics.

Section 1.—Forest Resources

Forest Regions.*—The forests of Canada cover a vast area in the north temperate climatic zone but wide variations in physiographic soil and climatic conditions cause marked differences in their character in different parts of the country; hence, eight fairly well-defined forest regions may be recognized. These regions, with the relative proportion of the total area of all forest regions occupied by each, are as follows:—

<i>Region</i>	<i>Percentage of Forest Area</i>	<i>Region</i>	<i>Percentage of Forest Area</i>
Boreal.....	82.1	Acadian.....	2.0
Great Lakes—St. Lawrence.....	6.5	Columbia.....	0.8
Subalpine.....	3.7	Deciduous.....	0.4
Montane.....	2.3		
Coast.....	2.2	TOTAL.....	100.0

Boreal Forest Region.—This Region comprises the greater part of the forest area of Canada, forming a continuous belt from Newfoundland and the Labrador coast westward to the Rocky Mountains and northwestward to Alaska. The white and the black spruces are characteristic species; other prominent conifers are tamarack which ranges throughout, balsam fir and jack pine in the eastern and central portions, and alpine fir and lodgepole pine in the western and northwestern parts. Although the forests are primarily coniferous, there is a general admixture of broadleaved trees such as the white birches and poplars; these are important in the central and south-central portions, particularly in the zone of transition to the prairie. In turn, the proportion of spruce and tamarack rises northward and, with increasingly rigorous climatic conditions, the close forest gives way to the open lichen-woodland which finally merges into tundra. In the east there is, along the southern border of the Region, a considerable intermixture of species from the Great Lakes—St. Lawrence Forest such as the white and the red pines, yellow birch, sugar maple, black ash and eastern white cedar.

Great Lakes—St. Lawrence Forest Region.—Along the Great Lakes and the St. Lawrence River Valley lies a forest of a very mixed nature, characterized by the white and the red pines, eastern hemlock and yellow birch. With these are associated certain dominant broadleaved species common to the Deciduous Forest Region, such as sugar maple, red maple, red oak, basswood and white elm. Other species with wide range are the eastern white cedar and largetooth aspen and, to a lesser extent, beech, white oak, butternut and white ash. Boreal species, such as the white and the black spruces, balsam fir, jack pine, poplars and white birch, are intermixed and, in certain humid portions of the east, red spruce is abundant.

Subalpine Forest Region.—This is a coniferous forest found on the mountain uplands in Western Canada. It extends northward to the major divide separating the drainage of the Skeena, Nass and Peace Rivers on the south and to that of the Stikine and Liard Rivers on the north. The presence of the black and the white spruces plus aspen and birch indicates a close relationship with the Boreal Region, and the characteristic species—Engelmann spruce, alpine fir and lodgepole pine—have boreal counterparts. There is some entry of blue Douglas fir from the Montane Forest and of western hemlock, western red cedar and amabilis fir from the Coast Forest. Other species found are western larch, whitebark pine, limber pine and, on the coastal mountains, yellow cedar and mountain hemlock.

Montane Forest Region.—The Region occupies a large part of the interior upland of British Columbia as well as a part of the Kootenay Valley and a small area on the east side of the Rocky Mountains. It is a northern extension of the typical forest of much of the western mountain system in the United States and comes in contact with the Coast Columbia and Subalpine Forests. Ponderosa pine is a characteristic species of the southern

* A more detailed discussion of forest regions is given in Bulletin 123, *Forest Regions of Canada*, published by the Department of Forestry and Rural Development.

portions. Blue Douglas fir is found throughout but more particularly in the central and southern parts; lodgepole pine and aspen are generally present, the latter being particularly well represented in the north-central portions. Engelmann spruce and alpine fir from the Subalpine Region together with white birch are important constituents in the northern parts. The white spruce, although primarily boreal in affinity, is also present here. Extensive prairie communities of bunch-grasses and forbs are found in many of the river valleys.

Coast Forest Region.—This is part of the Pacific Coast forest of North America. Essentially coniferous, it consists principally of western red cedar and western hemlock, with abundant Sitka spruce in the north and with the addition of Douglas fir in the south. Amabilis fir and yellow cedar occur widely and, together with mountain hemlock and alpine fir, are common toward the timber-line. Western white pine is found in the southern parts and western yew is scattered throughout. Broadleaved trees, such as black cottonwood, red alder and broadleaf maple, have a limited distribution. Arbutus and Garry oak, species whose centres of population lie southward in the United States, occur in Canada only on the southeast coast of Vancouver Island and the adjacent islands and mainland.

Acadian Forest Region.—Over the greater part of the Maritime Provinces, exclusive of Newfoundland, there is a forest closely related to the Great Lakes-St. Lawrence Region and, to a lesser extent, to the Boreal Region. Red spruce is a characteristic though not exclusive species and associated with it are balsam fir, yellow birch and sugar maple, with some red pine, white pine and hemlock. Beech was once an important forest constituent but the beech bark disease has drastically reduced its abundance in Nova Scotia, Prince Edward Island and southern New Brunswick. Other species of wide distribution are the black and the white spruces, red oak, white elm, black ash, red maple, white birch, wire birch and the poplars. Eastern white cedar, although present in New Brunswick, is extremely rare elsewhere and jack pine is apparently absent from the upper St. John Valley and the western half of Nova Scotia.

Columbia Forest Region.—A large part of the Kootenay River Valley, the upper valleys of the Thompson and Fraser Rivers and the Quesnel Lake area of British Columbia contain a coniferous forest closely resembling that of the Coast Region. Western red cedar and western hemlock are the characteristic species in this interior "wet belt". Associated trees are the blue Douglas fir which is of general distribution and, in the southern parts, western white pine, western larch, grand fir and western yew. Engelmann spruce from the Subalpine Region is important in the upper Fraser Valley and is found to some extent at the upper levels of the forest in the remainder of the Region. At lower elevations in the west and in parts of the Kootenay Valley the forest grades into the Montane Region and, in a few places, into prairie grasslands.

Deciduous Forest Region.—A small portion of the deciduous forest, widespread in the eastern United States, occurs in southwestern Ontario between Lakes Huron, Erie and Ontario. Here, with the broadleaved trees common to the Great Lakes-St. Lawrence Region, such as sugar maple, beech, white elm, basswood, red ash, white oak and butternut, are scattered a number of other broadleaved species which have their northern limits in this locality. Among these are the tulip-tree, cucumber-tree, papaw, red mulberry, Kentucky coffee-tree, redbud, black gum, blue ash, sassafras, mockernut and pignut hickories, and scarlet, black and pin oaks. In addition, black walnut, sycamore and swamp white oak are confined largely to this Region. Conifers are few and there is only a scattered distribution of white pine, tamarack, red juniper and hemlock.

Forest Land.—The forest area of Canada is estimated at 1,710,788 sq. miles, about 57 p.c. of which is "productive" in the sense that it is capable of producing merchantable timber; the remainder is incapable of producing merchantable timber because of adverse climatic, soil or moisture conditions or is reserve forest land for which no inventories are available. Table 1 shows the areas of productive and non-productive forest land in each province and territory; forest land in each province classified by type of growth is given in Chapter X at p. 466.

1.—Productive and Non-productive Forest Land, by Province

Province or Territory	Productive Forest Land	Non-productive Forest Land	Total
	sq. miles	sq. miles	sq. miles
Newfoundland.....	33,862	53,930	87,792
Prince Edward Island.....	813	121	934
Nova Scotia.....	15,080	1,194	16,274
New Brunswick.....	23,887	442	24,329
Quebec.....	220,625	157,500	378,125
Ontario.....	164,568	97,174	261,742
Manitoba.....	58,189	64,632	122,821
Saskatchewan.....	42,142	75,596	117,738
Alberta.....	116,572	41,023	157,595
British Columbia.....	208,411	59,227	267,638
TOTALS, PROVINCES.....	884,149	550,839	1,434,988
Yukon Territory.....	42,100	39,100	81,200
Northwest Territories.....	33,600	161,000	194,600
Canada.....	959,849	750,939	1,710,788

With help from the Federal Government, inventories of the forest resources are made periodically by provincial forest authorities and, with their co-operation, the federal Department of Forestry and Rural Development compiles the national forest inventory (see p. 471). The latest estimates of the total stand of merchantable timber, by province and region, appear in Table 2. These estimates are subject to constant revision as more accurate and complete inventories are compiled.

2.—Estimate of Merchantable Standing Timber, by Type and Size and by Province and Region

Province and Region	Coniferous			Broadleaved			Totals		
	Large Material ¹	Small Material ²	Total	Large Material ¹	Small Material ²	Total	Large Material ¹	Small Material ²	Total
	Million cu. ft.	'000 cords	Million cu. ft.	Million cu. ft.	'000 cords	Million cu. ft.	Million cu. ft.	'000 cords	Million cu. ft.
Newfoundland.....	2,125	136,400	13,719	244	3,922	577	2,369	140,322	14,296
Labrador.....	1,105	70,000	7,055	77	2,353	277	1,182	72,353	7,332
Island.....	1,080	66,400	6,664	167	1,569	300	1,187	67,969	6,967
Prince Edward Island...	20	1,829	175	7	800	75	27	2,629	250
Nova Scotia.....	2,149	50,824	6,469	1,529	20,988	3,313	3,678	71,812	9,782
New Brunswick.....	4,300	89,978	11,948	2,652	26,713	4,923	6,952	116,691	16,871
TOTALS, ATLANTIC PROVINCES.....	8,594	279,031	32,311	4,432	52,423	8,888	13,026	331,454	41,199
Quebec.....	59,702	290,220	84,371	17,472	73,985	23,761	77,174	364,205	108,133
Ontario.....	21,584	530,236	66,654	25,466	228,825	44,916	47,050	759,061	111,576
TOTALS, CENTRAL PROVINCES.....	81,286	820,456	151,025	42,938	302,810	68,677	124,224	1,123,266	219,709
Manitoba.....	1,863	92,498	9,725	1,065	24,188	3,121	2,928	116,686	12,844
Saskatchewan.....	1,742	102,637	10,467	3,174	76,822	9,704	4,916	179,459	20,177
Alberta.....	13,241	207,720	30,897	12,343	137,885	24,063	25,584	345,605	54,966
TOTALS, PRAIRIE PROVINCES.....	16,846	402,855	51,089	16,582	238,895	36,888	33,428	641,750	87,977
British Columbia.....	292,020	766,021	357,132	14,337	64,119	19,787	306,357	830,140	376,911
Yukon Territory.....	926	76,000	7,386	180	1,770	1,770	1,106	94,700	9,155
Northwest Territories...	600	112,000	10,120	424	41,000	3,909	1,024	153,000	14,024
Canada.....	400,272	2,456,363	609,063	78,893	717,947	139,919	479,165	3,174,310	748,955

¹ Ten inches D.B.H. or over (suitable for saw timber).² Four to nine inches (units of 85 cu. ft.).

Tenure of Forest Land.—Corporations and private individuals own 9 p.c. of the productive forest land of Canada and 91 p.c. is in the possession of the Crown in the right of the federal or the provincial governments. Rights to cut Crown timber under lease or licence have been granted on 23 p.c. of the productive forest land; the remainder comprises unalienated productive forest areas and federal lands such as Indian reserves, military reserves, etc.

Woodlots on the 480,903 farms (1966) across the country comprise about 3 p.c. of the total productive forest. These small wooded tracts, ranging in size from three or four acres to 200 or more acres, are among the most accessible forests in Canada. Also, the woodlots of Eastern Canada are, in general, highly productive because they lie in the southern part of the country and frequently occupy soils that are considerably higher in quality than those typical of the northern forests.

3.—Tenure of Occupied Productive Forest Land, by Province

(Net area in sq. miles)

Province or Territory	Provincial Crown Land			Federal Crown Land	Privately Owned Land			Total Occupied Productive Forest Land
	Leases and Licences	Permits and Sales	Total	Total	Farm Woodlots	Other	Total	
Newfoundland.....	25,976	—	25,976	—	31	1,715	1,746	27,722
Labrador.....	19,219	—	19,219	—	—	—	—	19,219
Island.....	6,757	—	6,757	—	31	1,715	1,746	8,503
Prince Edward Island.....	—	6	6	3	417	382	799	808
Nova Scotia.....	1,148	19	1,167	31	2,130	9,525	11,655	12,853
New Brunswick.....	10,403	—	10,403	413	1,923	10,459	12,382	23,198
Quebec.....	77,805	—	77,805	225	6,678	18,436	25,114	103,144
Ontario.....	83,903	—	83,919 ¹	56	5,086	11,105	16,191	100,206
Manitoba.....	1,488	600	2,088	320	2,327	1,489	3,816	6,224
Saskatchewan.....	1,815	1,000	2,815	592	2,216	2,081	4,297	7,704
Alberta.....	7,659	—	7,659	1,631	3,317	—	3,317	12,607
British Columbia.....	3,834	2,344	6,178	920	1,147	9,141	10,288	17,386
Yukon Territory.....	—	—	—	25	2	—	2	27
Northwest Territories.....	—	—	—	2	—	—	—	2
Canada.....	214,031	3,969	218,016¹	4,258²	25,274	64,333	89,607	311,881

¹ Includes 16 sq. miles of "other" provincial Crown land. ² Of this total, 320 sq. miles are under lease or licence—263 sq. miles in Alberta, the 25 sq. miles in the Yukon Territory and the 2 sq. miles in the Northwest Territories.

Canada's Forest Trees.*—There are more than 150 tree species in Canada, of which 31 are conifers or 'softwoods'. About two thirds of these softwoods and one tenth of the large number of the deciduous or 'hardwood' species are of commercial value.

The spruces are the most important forest trees in Canada. Although red spruce is found only in Eastern Canada, and Sitka and Engelmann only in the far west, black spruce and white spruce are found from the Atlantic almost to the Pacific, and northward to Alaska. About one third of Canada's timber volume is spruce. The wood is used for pulpwood, lumber and plywood.

Second only to the spruces are the two-needled pines—jack pine, which grows from Nova Scotia to northern Alberta and the Northwest Territories, and lodgepole pine in western Alberta, British Columbia and Yukon Territory. These pines comprise 11 p.c. of Canada's standing timber volume.

Third in importance are the true firs, of which the most widely distributed is the balsam fir, found from the Atlantic seaboard west to north-central Alberta. In the far

* Prepared by John W. Ker, Professor of Forestry, University of New Brunswick; reproduced courtesy Timber-jack Machines Limited. The dominant species existing in each forest region are given on pp. 538-539 and detailed information is contained in Department of Forestry and Rural Development Bulletin No. 61, *Native Trees of Canada*.

west are three species: grand fir, which grows on the southern coast of British Columbia and in the southern interior; amabilis fir, found at intermediate levels on the coast; and alpine fir, which grows in the mountains and interior of British Columbia, the foothills of Alberta and southern Yukon Territory. The wood is commonly cut as pulpwood and, to a lesser extent, as sawlogs.

Next in abundance is a family of eight broadleaved deciduous trees: the trembling aspen, largetooth aspen, balsam poplar and five cottonwoods—the eastern, black, lanceleaf, narrowleaf and plains cottonwood. The most widely distributed is the trembling aspen, followed by the balsam poplar. The black cottonwood reaches the largest size in this family. In demand for veneer stock, this species and its hybrids will yield large wood volumes per acre on short rotations under intensive management. The other species in this group are used in the manufacture of excelsior and soda pulp.

Fifth among Canada's forest trees is the hemlock. Three species are native to Canada: eastern hemlock grows in the Maritimes, southern Quebec and Ontario; western hemlock at lower and intermediate levels throughout the coastal and interior wet belts of British Columbia; and mountain hemlock at higher elevations in the southern mountains of British Columbia, growing down to sea level on wet, exposed sites on the northern coast and the panhandle of Alaska. Western hemlock is a valuable pulpwood species. Eastern hemlock is a main commercial source of tannin and the wood is used for railway ties, wood-stave pipe, lumber and pulp. Mountain hemlock is not important as a timber species.

The tree responsible more than any other for British Columbia's world-wide reputation for timber is the coastal form of the Douglas fir, which is dominant in the forests of the south coast and the southeastern half of Vancouver Island. An interior form, the blue Douglas fir, is widely distributed throughout the Rocky Mountain system. Douglas fir is used extensively for lumber, plywood, construction timbers, piling and kraft pulp.

Next in order are the cedars, including arborvitae and yellow cedar. The eastern white cedar is found from western Nova Scotia to Manitoba; its wood is light and resistant to decay. The western red is of prime importance to British Columbia. In virgin forests, it attains heights of 150 to 200 feet and diameters of 8 to 10 feet. It is used for lumber, hand-split shakes, shingles, poles and posts. At higher altitudes on the British Columbia coast, the red cedar is replaced by the yellow cedar. The wood of this species also resists decay and is prized for boat-building and interior finishing. It is useful for poles, piling and as battery separators.

Finally, there are the birches. Most abundant is the white birch which grows widely throughout Canada. Western white birch is a large tree, reaching heights of 100 feet and diameters of three to four feet. It is found in northern and western Alberta, in British Columbia and also on the Atlantic Coast in the east. However, the most important hardwood tree in Eastern Canada is the yellow birch, which grows in southern Newfoundland, the Maritimes, Quebec and Ontario. Its wood is much in demand for flooring, furniture, veneer and railroad ties.

Canada is indeed fortunate to possess such a diversity of useful tree species. The white pine and spruce in the east, and Douglas fir, western red cedar and western hemlock in British Columbia have won for Canada its enviable position as the world's leading nation in forest products trade.

Section 2.—Forest Depletion

General information on forest depletion and increment as well as statistics on forest fires and fire losses are presented in this Section. The scientific control of the influences that account for wastage, such as forest fires, insect pests, etc., is dealt with in Section 4.

The latest information available on the rate and causes of depletion of reserves of merchantable timber is given in Table 4. These data are not directly comparable with those given in previous Year Books. For instance, earlier DBS figures for British

Columbia differed from those issued by the British Columbia Forest Service because the latter used different conversion factors and different classifications for wood cut in the forests. The DBS is now using British Columbia Forest Service production figures so that the former confusion often encountered by users has been eliminated. Detailed information is given in DBS publication *Logging, 1963* (Cat. No. 25-201).

Table 4 shows only the depletion of the forests caused by utilization and by fire. Information on the extent of damage caused by agencies other than fire, such as insects, disease and natural mortality, is not available. Losses from insects and diseases alone are estimated to be in excess of 1,000,000 M cu. ft. of merchantable timber annually.

The productive forests of Canada covering an area of 959,849 sq. miles constitute the reserve from which forest production will be obtained in the immediate future. The supply of merchantable timber on this area is estimated at 748,982,000 M cu. ft. and the average annual utilization in 1955-64 of 3,326,494 M cu. ft. therefore represented less than one half of one percent of the supply. However, it should be noted that utilization does not occur evenly throughout the productive forest area but is concentrated on the relatively small area of occupied forest land (land under lease, licence or private ownership). Thus, overcutting may occur on many of these occupied areas, emphasizing the need for orderly management of all commercial forests if the forest industries are to maintain their important position in the Canadian economy. Also, efficient utilization of cut timber is an important factor related to forest depletion.

4.—Forest Utilization and Depletion by Fire, Ten-Year Average 1955-64

Item	Usable Wood	Percentage of Total Depletion
	M cu. ft.	
Products Utilized—		
Logs and Bolts—		
Domestic use.....	1,736,968	45.4
Exported.....	9,754	0.3
Pulpwood—		
Domestic use.....	1,155,330	30.2
Exported.....	118,235	3.1
Fuelwood.....	248,575	6.5
Other products.....	57,632	1.5
Totals, Utilization.....	3,326,494	87.0
Wastage—		
By forest fires.....	497,584	13.0
Totals, Depletion.....	3,824,078	100.0

Forest Fire Statistics.—Forest fires in Canada during 1966 numbered 7,468 compared with 7,238 during 1965 and an annual average of 6,620 for the ten-year period 1956-65. The area burned totalled 1,144,439 acres, about double the acreage burned in 1965 but only about one half of the annual average for the 1956-65 decade. However, about 84 p.c. of the area burned in 1966 was in the Yukon and Northwest Territories where there was an exceptionally dry summer season. The provinces experienced their easiest fire season on record with only 210,450 acres destroyed.

As shown in Table 7, human carelessness was again the principal cause of forest fires in 1966. Some 5,782 forest fires or 77 p.c. of all fires reported were attributed to man, and careless recreationists and settlers accounted for almost half of this total. Although lightning ignited only 23 p.c. of the forest fires, this cause accounted for about 60 p.c. of the total area damaged or destroyed.

5.—Forest Fire Losses, 1965 and 1966, compared with Ten-Year Average 1956-65

Item	Average 1956-65	1965	1966
Fires.....No.	6,620	7,238	7,468
Under 10 acres....."	5,482	6,372	6,705
10 acres or over....."	1,138	866	763
Area Burned.....acres	2,438,923	521,148	1,144,439
Merchantable timber....."	606,019	137,150	252,520
Young growth....."	520,232	152,988	394,453
Cut-over lands....."	293,555	39,355	18,636
Non-forested lands....."	1,019,117	191,615	478,830
Average Size of Fire.....acres	368	72	153
Merchantable Timber Burned—			
Saw timber.....M ft. b.m.	1,382,364	474,683	153,400
Small material.....cords	2,915,175	495,605	2,282,342
Estimated Values Destroyed¹\$	14,120,112	8,314,546	3,970,283
Merchantable timber.....\$	9,709,624	4,117,426	1,174,087
Young growth.....\$	2,898,577	2,835,787	2,186,001
Cut-over lands.....\$	432,699	256,213	73,544
Other property burned.....\$	1,079,212	1,105,120	536,651
Actual Cost of Fire Fighting\$	5,966,015	6,429,302	6,808,912
Totals, Damage and Fire Fighting Cost\$	20,086,127	14,743,848	10,779,195
Area under protection.....sq. miles	1,383,043	1,489,369	1,524,185

¹ Figures do not include such values as damage to soil, stream-flow, wildlife, recreation and tourist facilities.

6.—Forest Fire Losses, by Province or Area, 1965 and 1966, compared with Ten-Year Average 1956-65

Province or Federal Lands	Averages 1956-65			1965			1966		
	Fires	Area Burned	Fire Fighting Cost and Damage	Fires	Area Burned	Fire Fighting Cost and Damage	Fires	Area Burned	Fire Fighting Cost and Damage
	No.	acres	\$	No.	acres	\$	No.	acres	\$
Province—									
Newfoundland....	209	156,856	1,112,547	239	2,162	7,219	157	4,273	12,230
Prince Edward Island.....	1	1	1	1	1	1	1	1	1
Nova Scotia.....	446	7,425	80,832	783	14,866	156,852	817	2,812	26,537
New Brunswick..	362	13,898	303,313	743	21,534	1,042,602	639	4,224	200,899
Quebec.....	834	110,266	2,298,834	746	43,587	1,279,827	732	20,451	1,226,039
Ontario.....	1,399	164,888	4,811,642	1,218	19,904	1,168,229	1,921	14,415	762,642
Manitoba.....	392	577,376	1,283,197	225	16,752	76,908	235	6,154	147,241
Saskatchewan....	263	398,421	1,022,465	123	9,757	359,095	216	33,201	1,139,213
Alberta.....	410	133,688	2,803,519	252	54,334	1,973,428	371	69,950	2,764,025
British Columbia.	2,106	479,525	5,559,783	2,685	307,132	8,321,635	1,967	54,788	2,304,769
Federal Lands—									
Yukon Territory..	59	188,265	289,897	75	18,675	189,646	103	393,048	876,912
Northwest Territories....	92	200,630	472,906	109	9,204	111,172	248	540,941	1,310,817
National Parks...	34	7,228	37,900	18	838	3,989	33	3	1,028
Indian lands.....	2	2	2	2	2	2	2	2	2
Other federal lands (including military areas).	14	457	9,292	22	2,403	53,246	29	179	6,843
Totals	6,620	2,438,923	20,086,127	7,238	521,148	14,743,848	7,468	1,144,439	10,779,195

¹ Not reported.

² Included in provincial figures.

7.—Forest Fires, by Cause, 1965 and 1966

Cause	1965		1966		Cause	1965		1966	
	No.	p.c.	No.	p.c.		No.	p.c.	No.	p.c.
Recreation.....	1,690	23	1,809	24	Unknown.....	360	5	460	6
Settlement.....	863	12	885	12	Totals, Man-				
Woods operations....	389	5	341	4	caused.....	5,618	78	5,782	77
Railways.....	346	5	419	6	Lightning.....	1,620	22	1,686	23
Other industries.....	322	5	384	5	Totals, All				
Incendiary.....	320	5	280	4	Fires.....	7,238	100	7,468	100
Miscellaneous known.	1,328	18	1,204	16					

Section 3.—Statistics of Forest and Allied Industries

This Section is concerned with the many industries engaged in the felling of timber and its transformation into a great variety of products required in modern living. The extensive forests of Canada provide raw materials for several large and growing primary industries, i.e., the sawmills and planing mills, the shingle mills, the veneer and plywood mills, the particle board plants and the pulp and paper mills, which in their turn provide raw materials for a wide range of secondary industries that convert the products of the primary industries into more highly manufactured goods such as sash, doors, mill work, wooden boxes, furniture, converted papers and paper goods, etc. However, much of the output of the primary forest industries is exported; the sawmill industry and the pulp and paper industry, especially, contribute substantially to the value of the export trade of Canada and thereby provide an important part of the foreign exchange necessary to pay for the imports from other countries.

Statistics of manufacturing activity and total activity of the wood industries and the paper and allied industries may be found in a number of tables in Chapter XVI on Manufactures. These statistics and those included in the tables of this Section are based on the revised standard industrial classification and the new establishment concept, explained in Chapter XVI.

Subsection 1.—Woods Operations

The forests of Canada provide the raw materials for its sawmills and planing mills, shingle mills, veneer and plywood mills, particle board plants and pulp and paper mills as well as roundwood for export in unmanufactured state and other products such as fuelwood, poles and piling, fence posts, mining timber, Christmas trees, etc. Tables 8 and 9 give the estimated quantities of wood cut in Canada by province and by type of product.

8.—Volume of Wood Cut, by Province, 1960-64

Province or Territory	1960	1961	1962	1963	1964
	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.
Newfoundland.....	126,702	98,014	74,649	89,027	96,800
Prince Edward Island.....	10,834	10,157	5,514	6,045	6,072
Nova Scotia.....	98,095	96,747	81,907	86,554	104,640
New Brunswick.....	187,297	193,346	140,627	198,258	195,503
Quebec.....	879,914	914,096	876,043	913,542	933,096
Ontario.....	541,329	454,048	519,414	535,077	569,767
Manitoba.....	45,255	37,602	53,160	41,556	39,402
Saskatchewan.....	49,860	44,036	47,844	42,091	39,370
Alberta.....	148,485	118,390	131,706	133,472	124,475
British Columbia.....	1,337,957	1,295,038	1,496,832	1,621,649	1,678,880
Yukon and Northwest Territories.....	5,697	1,815	4,106	3,965	3,265
Canada.....	3,431,465	3,303,289	3,431,802	3,671,236	3,791,270

9.—Volume of Wood Cut, by Type of Product, 1962-64

Type of Product	1962		1963		1964	
	Quantity Reported or Estimated	Equivalent Volume in M cu. ft. ¹	Quantity Reported or Estimated	Equivalent Volume in M cu. ft. ¹	Quantity Reported or Estimated	Equivalent Volume in M cu. ft. ¹
Logs and bolts.....M ft. b.m.	9,934,202	1,894,740	10,903,237	2,083,854	11,264,436	2,155,889
Pulpwood..... cord	14,624,151	1,243,052	15,511,520	1,318,479	16,165,368	1,374,056
Fuelwood..... "	2,816,193	225,296	2,643,700	210,896	2,454,387	197,151
Poles and piling.....M cu. ft.	25,887	25,887	18,881	18,881	20,057	20,057
Round mining timber..... cord	67,479	5,716	64,694	5,498	64,024	5,431
Fence posts..... No.	13,481,772	16,178	18,797,800	22,557	18,656,685	22,271
Fence rails..... "	894,063	894	732,550	733	793,802	79
Wood for charcoal..... cord	39,500	3,160	46,000	3,680	42,000	3,360
Miscellaneous roundwood...M cu. ft.	16,879	16,879	6,658	6,658	12,079	12,079
Totals.....	...	3,431,802	...	3,671,236	...	3,791,071

¹ In estimating the annual cut, certain factors have been used to convert commercial units to cubic feet. The factor for logs and bolts for the British Columbia coastal region is 175 cu. ft. per M ft. b.m. logscale and for the remainder of Canada 200; the factor for rough pulpwood and round mining timber is 85, for fuelwood and wood for charcoal 80, fence posts 1.2 and fence rails 1.

Subsection 2.—Wood Industries

The standard industrial classification subdivides the wood industries group into the following industries: sawmills and planing mills, shingle mills, veneer and plywood mills, sash, door and other millwork plants, hardwood flooring mills, wooden box factories, the coffin and casket industry and miscellaneous wood industries. The latter item is further subdivided into the wood preservation industry, the wood handles and turning industry, the woodenware industry, the cooperage industry and miscellaneous wood industries, *n.e.s.*

The sawmills and planing mills, the shingle mills, the veneer and plywood mills and the particle board plants (the latter are included in the miscellaneous wood industries, *n.e.s.* group) mainly use roundwood as a raw material and sometimes are called primary wood industries and are dealt with separately below. The other industries, which constitute the secondary wood industries, further manufacture part of the production of the primary wood industries into a great variety of products. However, most of the production of the primary wood industries is not further processed.

Sawmill and Planing Mill Industry.—Lumber is by far the most important single product of this industry and, as shown in Table 10, British Columbia is the most important province in this field. It should also be noted that the shipment figures of Tables 10 and 11 contain a certain element of duplication because sales of lumber from one sawmill to another will be reported as shipments by both establishments. Similar situations occur in most industries to a greater or lesser extent.

In addition to the lumber produced by the sawmill and planing mill industry, a small amount is produced by establishments classified to other industries, bringing total lumber production in Canada in 1965 to 10,815,355 M ft.b.m.

10.—Lumber Production and Shipments and Value of All Shipments of the Sawmill and Planing Mill Industry, by Province, 1965

Province or Territory	Lumber			Value of Shipments of Goods of Own Manufacture
	Production	Quantity Shipped	Value of Shipments	
	M ft. b.m.	M ft. b.m.	\$'000	\$'000
Newfoundland.....	13,310	18,464	1,521	2,154
Prince Edward Island.....	6,088	2,025	142	216
Nova Scotia.....	204,768	178,887	13,366	16,708
New Brunswick.....	323,883	333,266	25,559	34,787
Quebec.....	1,409,941	1,317,460	102,706	126,667
Ontario.....	792,994	748,388	65,503	79,858
Manitoba.....	32,692	27,969	1,712	2,288
Saskatchewan.....	48,292	70,296	4,369	5,374
Alberta.....	306,113	379,876	22,071	25,390
British Columbia.....	7,019,209	7,426,943	511,725	602,218
Yukon and Northwest Territories.....	6,584	6,533	538	538
Canada.....	10,166,874	10,510,111	749,242	896,198

11.—Quantity and Value of Lumber Shipments of the Sawmill and Planing Mill Industry, by Species, 1965

Kind of Wood	Quantity	Value	Kind of Wood	Quantity	Value
	M ft. b.m.	\$'000		M ft. b.m.	\$'000
Spruce.....	3,948,615	255,072	Yellow birch.....	132,602	16,787
Douglas fir.....	2,146,302	153,563	Lodgepole pine.....	280,223	15,459
Hemlock.....	1,915,962	133,828	Balsam fir.....	205,784	13,993
Cedar.....	662,497	58,746	Other.....	364,749	28,933
White pine.....	303,888	29,372			
Jack pine.....	347,352	24,046			
Maple.....	172,137	19,443			
			Totals.....	10,510,111	749,242

Shingle Mill Industry.—Most of the shingles and shakes produced in Canada are from British Columbia mills. All establishments classified to this industry reported, for the year 1965, shipments of 1,951,817 squares of shingles and shakes valued at \$25,242,000, of which British Columbia accounted for 1,932,077 squares valued at \$25,088,000. However, it should be mentioned that considerable quantities are produced by establishments classified to other industries and by individuals intermittently operating one or two shingle machines or producing by hand; although no adequate measure of this production is available, it is known to contribute significantly to the total. Of the total production in 1965, 2,527,122 squares were exported, 2,489,244 squares going to the United States.

Veneer and Plywood Industry.—The production of hardwood veneer and plywood in Canada is confined largely to the eastern provinces and the production of softwood veneer and plywood almost entirely to British Columbia. For the latter, Douglas fir is most commonly utilized because of the availability of large diameter logs of this species from which large sheets of clear veneer can be obtained. Of the hardwoods, yellow birch is by far the most important species. Although most of the raw materials for this industry are of Canadian origin, some decorative woods are imported, particularly walnut.

About 42 p.c. of the shipments of veneer, shown in Table 12, are softwood veneers; most of these are further manufactured into plywood by Canadian mills, thus contributing to the shipments of plywood shown in the same table. Some of the hardwood veneers are

also shipped to other veneer and plywood mills for further manufacture or to other industries such as the furniture industry for veneering purposes, but a significant portion is exported. Total exports in 1965 amounted to 897,417 M sq. ft. valued at \$30,715,000, of which 840,917 M sq. ft. valued at \$27,043,000 went to the United States.

Most of the plywood is consumed in Canada, although exports are not unimportant in 1965 these amounted to 47,339 M sq. ft. of hardwood plywood valued at \$7,656,000 and 447,964 M sq. ft. of softwood plywood valued at \$29,854,000. The greater part of the exports of hardwood plywood went to the United States (45,094 M sq. ft. valued at \$7,038,000) but most of the softwood plywood exports went to Britain (370,793 M sq. ft. valued at \$24,692,000).

12.—Veneer and Plywood Shipments, by Type, 1963-65

Type	1963		1964		1965	
	Quantity	Value	Quantity	Value	Quantity	Value
	M sq. ft.	\$'000	M sq. ft.	\$'000	M sq. ft.	\$'000
Veneer.....	1,662,604 ¹	31,570	1,453,733 ¹	32,598	1,948,793 ¹	40,082
Softwood plywood.....	1,885,923 ²	103,559	1,475,197 ²	115,300	1,555,975 ²	120,783
Hardwood plywood.....	364,090 ²	37,430	372,008 ²	38,090	384,899 ²	37,817

¹ Surface measure.

² $\frac{3}{4}$ " sanded basis.

³ $\frac{3}{8}$ " sanded basis.

Subsection 3.—Paper and Allied Industries

The standard industrial classification subdivides the paper and allied industries group into the following industries: the pulp and paper industry, the asphalt roofing manufacturers, the paper box and bag manufacturers, and other paper converters. Statistics of manufacturing activity and total activity of the paper and allied industries group are given in Chapter XVI on Manufactures.

Pulp and Paper Industry.—This industry is by far the most important of the group. In fact, it has been for many years the leading industry in Canada, contributing almost 4 p.c. of the total gross national product and over 16 p.c. (1965) of the total value of the country's exports. There were 132 pulp and paper mills in operation in 1965.

These mills consume enormous quantities of roundwood, 16,487,083 rough cords with a cost value of \$415,351,000 being so used in 1965. In that year, 105,767 cords of pulpwood were imported and 1,352,164 cords were exported. In addition, the pulp and paper mill use wood residues of the sawmill and other industries for pulping, such as cores of peeled logs, slabs and edgings or wood chips made thereof, shavings, etc., and recently even sawdust has been used successfully for this purpose. The total of such wood residues used by the industry in 1965 amounted to the equivalent of 4,302,013 rough cords of pulpwood valued at \$92,582,000. The industry also consumes large amounts of electric power, chemicals and other goods and services and requires great quantities of clean water.

Some of the production of the pulp and paper industry is consumed in Canada and serves as a raw material for the paper-using or secondary paper and allied industries and certain other industries, but a great part of it is exported, particularly newsprint and various

types of pulp (see Table 15), most of it to the United States. Some plants included in the pulp and paper industry classification also convert basic paper and paperboard into more highly manufactured papers, paper goods and boards but their output represents only a small part of Canada's total production of converted papers and boards. Tables 13 and 14 give shipment and production figures for pulp and shipment figures for basic paper and paperboards for 1961-65, Table 15 shows exports of pulp and of newsprint to Britain, United States and all countries for 1961-66, and Tables 16 and 17 give world pulp and newsprint statistics for 1964 and 1965.

13.—Pulp Shipments and Production, 1961-65

Item	1961	1962	1963	1964	1965
Mill Shipments of Pulp¹.....	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
	3,335	3,690	4,023	4,412	4,650
	\$'000 392,078	\$'000 436,920	\$'000 479,040	\$'000 548,505	\$'000 592,238
Groundwood pulp.....	'000 tons 260	'000 tons 287	'000 tons 287	'000 tons 321	'000 tons 330
	\$'000 17,665	\$'000 20,201	\$'000 19,612	\$'000 21,968	\$'000 22,421
Chemical pulps.....	'000 tons 3,048	'000 tons 3,377	'000 tons 3,708	'000 tons 4,062	'000 tons 4,296
	\$'000 374,221	\$'000 415,937	\$'000 458,773	\$'000 525,790	\$'000 569,195
Pulp Production².....	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Quebec.....	4,578	4,611	4,732	5,204	5,450
Ontario.....	2,981	3,052	3,074	3,317	3,357
British Columbia.....	2,256	2,411	2,501	2,827	3,275
Other provinces ³	1,964	2,059	2,167	2,393	2,491

¹ Includes screenings and unspecified pulps.

² The differences between these figures and the quantities of mill shipments represent the amounts of pulp further manufactured by the reporting companies.

³ Prince

Edward Island is the only province in which there is no production.

14.—Shipments of Basic Paper and Paperboard, by Type and by Province, 1961-65

Type and Province	1961	1962	1963	1964	1965
Type					
Newsprint paper.....	'000 tons 6,674	'000 tons 6,648	'000 tons 6,639	'000 tons 7,377	'000 tons 7,841
	\$'000 803,732	\$'000 819,078	\$'000 809,247	\$'000 887,613	\$'000 927,832
Book and writing paper.....	'000 tons 417	'000 tons 434	'000 tons 460	'000 tons 491	'000 tons 535
	\$'000 112,283	\$'000 119,405	\$'000 126,651	\$'000 138,157	\$'000 150,289
Wrapping paper.....	'000 tons 309	'000 tons 323	'000 tons 334	'000 tons 340	'000 tons 360
	\$'000 66,731	\$'000 69,892	\$'000 72,457	\$'000 76,431	\$'000 80,240
Paperboard.....	'000 tons 1,018	'000 tons 1,092	'000 tons 1,214	'000 tons 1,297	'000 tons 1,420
	\$'000 149,532	\$'000 156,995	\$'000 175,184	\$'000 187,772	\$'000 202,175
All other papers.....	'000 tons 140	'000 tons 164	'000 tons 178	'000 tons 200	'000 tons 171
	\$'000 24,132	\$'000 25,128	\$'000 27,375	\$'000 34,138	\$'000 29,374
Totals.....	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
	8,558	8,661	8,825	9,705	10,327
	\$'000 1,156,410	\$'000 1,190,498	\$'000 1,210,914	\$'000 1,324,111	\$'000 1,389,910
Province					
Quebec.....	'000 tons 3,726	'000 tons 3,765	'000 tons 3,798	'000 tons 4,236	'000 tons 4,463
	\$'000 488,534	\$'000 504,061	\$'000 509,685	\$'000 567,560	\$'000 597,420
Ontario.....	'000 tons 2,454	'000 tons 2,516	'000 tons 2,527	'000 tons 2,729	'000 tons 2,810
	\$'000 357,714	\$'000 376,444	\$'000 384,603	\$'000 411,591	\$'000 423,496
British Columbia.....	'000 tons 1,117	'000 tons 1,161	'000 tons 1,201	'000 tons 1,315	'000 tons 1,521
	\$'000 150,778	\$'000 157,097	\$'000 155,599	\$'000 169,468	\$'000 185,423
Other provinces ¹	'000 tons 1,261	'000 tons 1,219	'000 tons 1,299	'000 tons 1,425	'000 tons 1,533
	\$'000 159,384	\$'000 152,896	\$'000 161,026	\$'000 175,493	\$'000 183,571

¹ Prince Edward Island is the only province in which there is no production.

15.—Exports of Pulp and of Newsprint to Britain, United States and All Countries, 1961-66

Commodity and Year	Britain		United States		All Countries	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$'000	tons	\$'000	tons	\$'000
Pulp						
1961.....	278,846	31,023	2,176,585	268,949	2,868,844	346,661
1962.....	251,742	27,723	2,398,802	298,166	3,044,458	369,902
1963.....	279,834	31,621	2,505,669	309,915	3,339,492	405,232
1964.....	338,663	38,464	2,676,940	346,017	3,656,281	460,854
1965.....	347,167	40,404	2,812,616	370,380	3,852,650	493,501
1966.....	323,766	35,588	2,977,846	390,760	3,854,000	492,961
Newsprint						
1961.....	456,962	59,294	5,228,156	629,792	6,253,717	761,313
1962.....	481,822	63,452	5,227,006	633,037	6,148,294	753,060
1963.....	458,814	60,213	5,251,125	636,086	6,211,946	759,990
1964.....	480,332	61,791	5,675,627	689,406	6,815,629	834,646
1965.....	370,372	46,932	6,112,414	735,611	7,189,700	869,586
1966.....	384,034	48,833	6,652,270	823,664	7,821,148	968,224

World Pulp and Newsprint Statistics.—Figures of production, exports and imports of pulp for certain countries of the world are shown for 1964 and 1965 in Table 16. It is estimated that these countries produce over three quarters of the world supply of pulp.

16.—Production, Exports and Imports of Pulp, by Leading Countries, 1964 and 1965 (SOURCE: FAO Year Book of Forest Products Statistics)

Country	1964			1965		
	Production	Exports	Imports	Production	Exports	Imports
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Canada ¹	13,946	3,695	76	12,872	3,495	85
United States.....	32,255	1,605	2,989	30,199	1,319	2,830
Finland.....	5,970	2,380	3	5,574	2,118	4
Norway.....	2,014	978	50	1,839	865	44
Sweden.....	7,130	3,909	3	6,850	3,342	4

¹ Production figures differ slightly from DBS figures given in Table 13 because of a different basis of calculation.

Figures for the leading newsprint-producing countries for 1964 and 1965 are given in Table 17. The seven countries listed accounted for over 81 p.c. of the estimated world production in 1965, Canada contributing over 42 p.c.

17.—Estimated World Newsprint Production and Exports, by Leading Countries, 1964 and 1965

(SOURCE: Newsprint Association of Canada)

Country	1964		1965	
	Production	Exports	Production	Exports
	'000 tons	'000 tons	'000 tons	'000 tons
Canada ¹	7,301	6,759	7,720	7,157
United States.....	2,261	117	2,180	84
Japan.....	1,258	6	1,309	6
Finland.....	1,074	988	1,189	1,090
Britain.....	840	19	860	3
Union of Soviet Socialist Republics.....	698	115	818	153
Sweden.....	756	509	753	490

¹ Figures differ slightly from DBS figures given in Tables 14 and 15 because of different bases of calculation.

Asphalt Roofing Manufacturers.—These establishments produce composition roofing and sheathing, consisting of paper felt saturated with asphalt or tar and, in some cases, coated with a mineral surfacing. They also produce asphalt, vinyl-asbestos and pure vinyl floor tiles. Their total shipments in 1965 were valued at \$57,760,000.

Paper Box and Bag Industries.—These industries include manufacturers of folding cartons and set-up boxes, manufacturers of corrugated boxes and manufacturers of paper bags. Their total shipments in 1965 amounted, respectively, to \$143,877,000, \$193,052,000 and \$120,918,000.

Other Paper Converters.—This group produces a host of paper products such as envelopes, waxed paper, clay coated and enameled paper and board, aluminum foil laminated with paper or board, paper cups and food trays, facial tissues, sanitary napkins, paper towelling and napkins, toilet tissue, etc. The total value of manufacturing shipments of this industry in 1965 amounted to \$261,964,000.

Section 4.—Forest Administration, Research and Conservation

Subsection 1.—Federal Forestry Program

Administration.—The Federal Government is responsible through several departments and agencies for the protection and administration of the forest resources of the Yukon and Northwest Territories and of other federal lands such as the National Parks, Indian reserves, military areas and forest experiment stations.

The main forestry functions of the Department of Forestry and Rural Development* (established as the Department of Forestry in 1960 and re-named in 1966) include: (1) provision for the conduct of research relating to the protection, management and utilization of the forest resources of Canada and the better utilization of forest products; (2) undertaking, promoting or recommending measures for the encouragement of public co-operation in the protection and wise use of the forest resources of Canada; (3) co-operating with provincial governments and others by means of agreements relating to forestry matters; (4) provision of forest surveys and advice relating to the protection and management of federally administered forest lands; and (5) assuming responsibility for forest protection and management on federal lands at the request of the department or agency concerned. The Act provides for the establishment of research facilities and of forest experimental areas on federal lands.

The Department maintains an Advisory Group to the Deputy Minister, whose main responsibilities are to develop policies and long-range plans for forest research, forest products research, forest economics and such other matters as federal-provincial relations and liaison with the forest industries and the academic community. A Directorate of Program Co-ordination provides national co-ordination of forestry research programs and supervises national research services at Ottawa. Research institutes and laboratories conduct fundamental research within prescribed fields, supporting and complementing the research programs carried out in seven administrative regions—Newfoundland, the Maritimes, Quebec, Ontario, Manitoba—Saskatchewan, Alberta—Yukon Territory—Northwest Territories, and British Columbia. Forest surveys are conducted on federal lands throughout the country and advice and assistance on forest management are given to the administering agencies. The Department also provides for the management of forests, including timber disposal, in certain areas on behalf of other government departments. Co-operation is extended to the External Aid Office in administering technical assistance programs involving forest surveys in other countries. The Department's public informa-

* The Department of Forestry and Rural Development includes, under the administration of a separate Assistant Deputy Minister, a division responsible for rural development under authority of the Agricultural and Rural Development Act (ARDA) and the Maritime Marshland Rehabilitation Act, described at pp. 469-472; the administration of the Feed Grain Assistance Regulations, described at p. 487, is also a responsibility of the Department.

tion program includes the issuing of publications designed to increase public awareness of the importance of Canada's forest resources and the need for conserving them; the distribution of research publications and the interpretation of the scientific work of the Department to industry and to the general public; the dissemination of departmental and forestry information to the press, radio and television; the production of exhibits, displays and posters; and the maintenance of a photographic library dealing with forestry subjects.

The research functions of the Department and the Federal-Provincial Forestry Agreements program are described in the following paragraphs.

Research on Silviculture, Tree Biology, Forest Soils and Fire.—The objects of such research are (1) to provide basic information on the characteristic occurrence, growth, development and behaviour of forest tree species throughout the wide range of forest types and environmental conditions of Canada and (2) to develop and test new or improved methods for use in forest management and forest fire control. The programs are conducted throughout Canada, often in co-operation with other federal departments, provincial forest authorities, other research agencies, universities and industry.

A substantial portion of the research program in silviculture involves the study of factors responsible for the success or failure of natural regeneration following various methods of cutting and treatment of seedbeds, and the development of improved methods of regenerating forest stands following logging or fire and of creating forests on abandoned farmland, heathland or bogland. Different methods of seeding and planting are being compared, and increased emphasis is being given to problems associated with container planting. The effects of mechanization of logging on reproduction and on slash and soil conditions are being investigated. Studies of different methods of stand tending such as pruning, cleaning and thinning are under way to determine means of increasing both quantity and quality of wood production. Investigations of successional changes are under way in most of the important forest types and the relation of forest growth to site are being studied with a view to the assessment of long-term productivity. The requirements of light, temperature and moisture that will produce optimum conditions for growth and development are being determined for seedlings. The physiological processes of growth and reproduction are under investigation for a limited number of species. In tree breeding, superior strains are selected or developed and there is a continual improvement in propagation and breeding techniques. Research in forest land encompasses forest geography and land classification. Research in soils is directed toward determining the relation of tree growth and nutrition to chemical and physical properties of the soil.

Improved techniques for determining tree and stand volume are being developed and the various factors that influence growth are being investigated and quantified. Considerable attention is devoted to the evaluation of existing forest inventory methods and to developing new and improved techniques which incorporate the use of large-scale aerial photography. Studies of methods to estimate stand volumes from air photographs are continuing. Increased attention is being given to studies of growth and yield of typical forests and mathematical models are being developed to describe the growth responses of stands and individual trees.

Adequate protection of forests against fire is of vital importance in Canada. The Department works in full co-operation with provincial forest services in almost all phases of forest fire control and has made major contributions in the fields of forest fire danger measurement and forecasting and in fire control planning. Investigations are being made of forest fire behaviour, of the use of prescribed fire for hazard reduction and seedbed preparation, of better methods of reporting forest fires, and of fire damage appraisal and related factors in forest protection standards. Studies are being continued in the use of chemicals for fire suppression and pre-suppression, of fire fighting equipment and techniques, and of the use of aircraft in forest fire control. Another important field of endeavour is the study of fire hazard created by slash from various kinds of logging practices for different species.

Forest Products Research.—This work is directed toward obtaining background data on the properties of Canadian woods, developing new and better uses for wood products, improving methods of processing, and effecting more complete utilization of wood substances. Activities cover all major aspects of forest products and include the determination of the physical, mechanical, chemical and anatomical properties of wood and their relation to adaptability in use; studies of factors affecting quality of wood and of manufactured wood products; determination of factors that cause wood waste in logging and manufacturing; investigation into fire retardant treatments, the preservative treatment and painting of wood and the use of wood for the manufacture of a variety of products by chemical or mechanical means; and studies to determine possible new economic and more valuable uses for woods and to determine methods for the economical utilization of all wood substances available from the annual timber harvest.

The program is conducted mainly at two laboratories—at Ottawa and Vancouver—with units consisting of timber engineering, containers, glues and gluing, veneer and plywood, timber physics, wood chemistry, pulping, wood preservation, paints and coatings, wood pathology, products entomology, wood anatomy, logging, lumber manufacture and lumber seasoning. Research results are made available to the thousands of plants comprising Canada's timber-manufacturing and wood-using industries. Liaison is maintained with these industries to ensure that the research being conducted is of optimum national benefit. There is also constant co-operation with various government units in the performance of many investigations concerned with the use of wood. Research into the use of wood in housing construction and as an engineered material continues in co-operation with the National Research Council and the Central Mortgage and Housing Corporation.

At regional establishments, products research is planned on utilization problems of regional interest, and products liaison officers visit sawmills and other wood-working plants to keep industry aware of research developments and technical advances and, on the other hand, to keep the department informed of field problems on which research would be of value.

Departmental personnel serve on many national and international technical committees concerned with forestry problems and continuous collaboration is maintained with forest products laboratories in other countries for the dual purpose of exchanging information and avoiding duplication of research.

Forest Insects and Diseases.—Research on forest insects and diseases is conducted at regional laboratories and field stations in all principal forest regions of Canada. A Canada-wide survey is undertaken in co-operation with the provincial forest services and forest industries to maintain an annual census of forest insect and disease conditions and to detect and predict the occurrence of outbreaks. Survey results are made available to owners and operators of forest lands for use in planning salvage programs and directing control measures to reduce damage.

Laboratory research programs are designed to lead to comprehensive understanding of the biology and ecology of the more destructive forest insects and fungi, and the causes of fluctuations in abundance or severity of damage in time and place. Problems under intensive study include insect defoliators, leaf diseases, sucking insects, dwarf mistletoes, stem cankers, bark- and wood-boring beetles, trunk and root decays, tip- and root-boring insects and diseases of tree seedlings in forest nurseries. Research on development, physiology, nutrition and taxonomy complements the field ecological studies of insects and fungi. Problems of national importance in insect pathology, cytology and genetics, bioclimatology and chemical control are investigated.

Experiments are also carried out in insect and disease control, utilizing cultural techniques, chemicals and biological control agents including parasites, predators and insect pathogens. Technical advisory services are provided in evaluating quarantine programs, possibilities of eradication or control, or other applications of research results. Examples include recommendations for reduction of seedling losses in forest tree nurseries through cultural techniques and chemical applications; the co-operative organization of

cull surveys to improve forest inventories; consultation and advisory services for local authorities on the Dutch elm disease problem; and technical co-operation with provincial governments and industrial agencies in the organization of spraying operations against the spruce budworm in New Brunswick, the jack pine budworm in Manitoba, the ambrosia beetle in British Columbia, and the European pine sawfly in Ontario.

Federal-Provincial Forestry Agreements.—The passing of the Canada Forest Act in 1949 was an event of great significance to federal-provincial relations in the field of forestry, as authority was given to the then Minister of Mines and Resources to "enter into agreements with any province for the protection, development or utilization of forest resources". Subsequently, this Act was replaced by the Department of Forestry Act in 1960 (renamed the Forestry Development and Research Act in 1966). Since the beginning of these agreements have been entered into with most provinces; these provided for federal financial support for programs of forest inventories and reforestation, for the purchase of capital assets to be used in forest fire protection and for forest access and stand improvement projects.

Under the Act, a composite forestry agreement was entered into with the provinces for a term of two years ending Mar. 31, 1967. This agreement included in "a single package" the federal aid available for the above-mentioned purposes and also gave the provinces considerably greater freedom to allocate funds among the specified fields of work. A total of \$7,910,000 of federal funds was available annually, the allocation to the provinces being in proportion to their productive forest areas.

Federal assistance was based on payment of 50 p.c. of provincial costs but reforestation was the one exception; the Federal Government paid \$15 per thousand trees planted, \$2 per acre seeded with ground preparation, \$2 per acre seeded without ground preparation and \$2 per acre for seedbed preparation to promote natural regeneration and, in addition, contributed 25 p.c. of the cost of establishing or expanding forest nurseries. Costs of management-type surveys were included in the agreement as sharable, and the reforestation of occupied or unoccupied Crown land qualified for assistance provided it was carried out by the province.

Since 1951, nearly \$64,000,000 in federal funds has been contributed to the provinces under the main forestry agreements, plus \$6,927,000 for aerial spraying in New Brunswick against budworm infestations and, on a smaller scale, in British Columbia and Quebec against the budworm and jack pine sawfly, respectively, \$712,000 under a special forest improvement agreement with Nova Scotia designed to provide woods experience for coal miners laid off in the Cape Breton area and about \$118,000 for special surveys in the Province of British Columbia, for the purpose of determining the extent of the balsam woolly aphid infestation in that province.

Work accomplished with federal assistance has included the completion of forest inventories by seven provinces. Most of the provinces instituted programs concerned with management-type inventories and at the same time were maintaining their initial inventories in a reliable state. As a result of these inventories, new woods operations have sprung up, particularly in the British Columbia interior, and new pulp and paper mills have been built or are planned in other areas of Canada. The Federal Government has contributed under the agreements to the establishment of 16 new forest nurseries and five seed-extraction plants and to the planting of 349,277,000 trees. Federal contributions of \$19,731,000 have been used for the purchase of fire towers, radios, motor vehicles, bulldozers, muskeg tractors, power pumps, hand pumps, hose and aircraft, for the construction of buildings required for the prevention, detection and suppression of forest fires and the charter of aircraft for patrol, transportation and water-dropping purposes. Several hundred access projects designed to improve protection and permit the management of undeveloped forest areas have been undertaken, resulting in the construction of nearly 4,300 miles of road and 45 airstrips, with the Federal Government contributing more than \$23,513,000.

Subsection 2.—Provincial Forestry Programs

All forest land in provincial territory, with the exception of the minor portions in National Parks, federal forest experiment stations, military areas and Indian reserves, is administered by the respective provincial governments. The forestry program of each province is outlined below.

Newfoundland.—Geographically, the Province of Newfoundland has two separate regions—the Island and Labrador on the mainland. The productive forest land is estimated at approximately 30,000 sq. miles about equally divided between the Island and Labrador. Most of Labrador's forests are leased but are as yet virtually untouched.

A large part of the forest land in the interior of the Island is leased, licensed or owned by paper companies, but a three-mile-wide belt along most of the coastline is retained as unoccupied Crown land for the purpose of providing firewood, construction material, fencing material, etc., for the local populations. Within this coastal forest belt, every household has legal right to cut 2,000 cubic feet of wood a year for domestic use. This form of cutting is generally without intense control or restriction but a policy is being introduced whereby cutting in certain 'management areas' is controlled by Forest Service Officers. Approximately one half of the Crown forests are at present under management. Commercial timber-cutting on unoccupied Crown lands has been by permit since 1952; permits for amounts up to 120 cords per person are issued by the field staff but permits for larger quantities must be approved by the government.

The Island is divided into three forest regions, each of which is subdivided into five districts. Each region is under the control of a regional forester and each district is headed by a district ranger with a staff of rangers and assistant rangers. Twenty-five well-equipped forest fire depots and 20 lookout towers, connected by radio-telephone to district and regional offices, are operated by the Newfoundland and Labrador Forest Service; others are operated by the two paper companies which maintain their own forest fire protection organizations.

Forestry operations in Labrador are under the supervision of a regional ranger located at Happy Valley (Goose Airport). Forest fire protection bases are located near Goose Airport and at Labrador City, Churchill Falls, Cartwright and Makkovik.

The Forest Service operates 10 fixed-wing aircraft for forest fire detection and suppression and three helicopters for transporting men and equipment. The permanent Forest Service staff of approximately 90 persons is doubled during the fire season with the addition of seasonal employees.

Prince Edward Island.—Roughly one third of Prince Edward Island's 2,184 sq. miles of land is tree-covered. The wooded areas consist of scattered patches throughout the province, the greatest concentration being in the eastern section. All of the woodland is privately owned with the exception of some 3 sq. miles of federal Crown land and about 6 sq. miles purchased recently through ARDA and turned over to the Crown in the right of the provincial government. The Forestry Division, Department of Agriculture, administers all forestry matters in the province but is mainly concerned with reforestation, protection and woodlot improvement. Although forestry is of secondary importance to the province, nevertheless the woodlots aid greatly in maintaining moisture for agriculture and form breaks against the average 15-mile-an-hour winds that blow across the Island.

The reforestation program has been increasing year by year, with as many as 500,000 trees being planted in one year on provincially owned and privately owned marginal and submarginal land. The forest management programs include the provision of access roads into Crown land areas and woodlot improvement; improvement cuts act as demonstration areas to the public, 4-H Forestry Clubs, and Boy Scout and Girl Guide groups. Fire protection is not too serious a problem. Wooded areas are relatively small and scattered and are all accessible by road so that equipment can be rushed to the scene of a fire quickly and easily.

Nova Scotia.—Of Nova Scotia's land area of 20,402 sq. miles, 16,274 sq. miles are classed as forested and 93 p.c. of the latter is regarded as productive. Although 91 p.c. of the forest land in Canada is held by the Crown in the right of the federal and provincial governments, only 22 p.c. is so held in Nova Scotia.

The provincial Crown lands are administered by the Department of Lands and Forests through a staff of foresters and rangers. Also, trained provincial personnel are employed with some of the forest industries in the administration of privately owned forest lands. The Department administers the Lands and Forests Act as it pertains to all lands, and is responsible for forest fire suppression. Forest fire detection is facilitated through 31 observation towers and an aerial patrol service, all integrated with land vehicles and headquarters by radio and telephone communication systems. Fire suppression crews and rangers with equipment are stationed throughout the province.

The forest industry is of prime importance to the economy of Nova Scotia. There are in operation about 450 sawmills of various types and sizes, one newsprint mill, two groundwood pulp mills and a chemical pulp mill. These mills processed around 235,000 ft.b.m. of sawn materials and about 580,000 cords of round products in 1966. With the addition of output from a new large hardboard plant and a second chemical pulp mill both of which began operations in 1967, the roundwood output for 1967 is expected to be increased by some 380,000 cords.

The reforestation program, active since the 1930s, is being expanded about three-fold by the enlargement of the main Lawrencetown nursery and the establishment of a new forest nursery on Cape Breton Island. Experimental work on soil capability and site preparation on fire barrens is being continued. In 1966 about 1,000,000 seedlings were planted, mostly on non-forested land.

Forest management programs include the construction of access roads into Crown land timber areas, and stand improvement under federal-provincial agreements. Timber pulpwood and Christmas trees are sold through public tender, and cutting on Crown land is done under recommendation of district foresters of the Department of Lands and Forests. Management cruises, regeneration studies and experimental cuttings are conducted on Crown lands, and an active program of operating these lands under sustained yield management plans is well under way. Silvicultural techniques, including thinning conversion cutting, aerial and ground fertilization, bog-plowing and the use of silvicides were applied to 10,000 acres of Crown lands in 1966 under a provincial-federal program.

Forest research is carried on by Federal Government agencies and the Nova Scotia Research Foundation. Investigations cover stand improvement, tree nutrition, cutting methods, and insect and disease activities. Extension projects include fire prevention, a film program for schools, distribution of information on forest and wildlife conservation, promotion of the Christmas-tree industry, woodlot improvement, preparation of materials for the mass media, and technical assistance to sawmill operators.

New Brunswick.—Of the total land area of New Brunswick (27,835 sq. miles) approximately 86 p.c. is classed as productive forest, of which the Crown, in right of the province, owns about one half. About 2 p.c. is owned by the Federal Government and the remainder is privately owned. The results of a provincial forest inventory, part of the national forest inventory, were published in 1958. The total volume of standing timber in the province is estimated at 16,900,000 M cu. ft.; coniferous species make up 7 p.c. and deciduous species the remainder.

Protection from forest fires, the first requirement for forest conservation, is mainly the responsibility of the Department of Natural Resources which also carries out duties in connection with game management and protection, provincial parks, and the administration of provincial Crown lands. A large-scale aerial spraying program to protect balsam fir and spruce from the spruce budworm has been carried on since 1952 by a Crown company sponsored by the federal and provincial governments and by representatives of the forest products industries. Forest Management Licences authorize operators to cut

and remove forest products in accordance with forest management plans and cutting permits. Royalty is paid to the province when products are cut by the licensees.

New Brunswick does not maintain a forest research organization but co-operates with the federal Department of Forestry and Rural Development in that field. The University of New Brunswick has also undertaken a small number of forest research projects in co-operation with the National Research Council, the provincial government and other interested organizations.

In the field of education, the University of New Brunswick offers undergraduate and graduate courses in forestry leading to B.Sc.F. and M.Sc.F. degrees. It is also responsible for the administration of the Maritime Forest Ranger School in conjunction with the Governments of New Brunswick and Nova Scotia and with private industry. The forest extension services of the University assist both government and private agencies in the direction and planning of various forestry extension programs. The provincial Department of Agriculture also provides an expanding extension service to the owners of farm woodlots.

Quebec.—The forests of Quebec cover an area of some 378,000 sq. miles and extend from the southern boundary to an irregular line roughly following the 52nd parallel on the north, and from the Ontario boundary on the west to an irregular line following the Atlantic Coast on the east. Of these forests, 34 p.c. are limits or are reserved for specific purposes under forest management plans and are utilized mainly to supply the large pulp and paper mills and the sawmills of the province. Private forests account for about 10 p.c. of the total forest area and for about one quarter of the annual cut. The remaining 56 p.c. has not as yet been completely inventoried and is largely unoccupied but it is expected that this area will soon be under full management and be available for exploitation to meet the ever-increasing needs for wood products. Some logging is now being done in the accessible parts of the area.

The administration of the public forests is the responsibility of the Woods and Forests Branch of the Quebec Department of Lands and Forests, the functions of which include management, control and supervision. Also, under certain circumstances when the interest of a group so requires, the Department may engage in management of private forests. The Department is involved, both directly and through various organizations, in forest fire protection and insect and disease control, and also operates a number of nurseries located throughout the province which supply plants necessary for restocking areas where natural reproduction is inadequate. The present nursery stock totals about 70,000,000 seedlings.

Because Quebec's forests are of prime importance to the economy of the province and to that of Canada, the Department of Lands and Forests maintains continual revision of its forest policies in line with progress in all aspects of forestry, with a view to increasing this valuable capital asset and its returns.

Ontario.—The boundaries of Ontario enclose an area of 412,582 sq. miles—83 p.c. land and 17 p.c. water. Forest lands comprise 75 p.c. of total land, of which 164,600 sq. miles are classified as productive. The Crown owns 90 p.c. of the productive forest land. Although 84 tree species (exclusive of the hawthorns) occur within Ontario, four species (black spruce 29 p.c., poplar 19 p.c., jack pine 13 p.c. and white birch 11 p.c.) account for almost three quarters of the total volume of standing trees. The total volume of merchantable standing timber is estimated at 111,000,000 M cu. ft.—60 p.c. softwoods and 40 p.c. hardwoods.

Crown forests are administered and managed through the Department of Lands and Forests, which has 10 branches at Head Office and 22 forest districts (grouped within three regions). The Branches may be classified as service (Accounts, Law, Operations, Personnel, and Research) and operating (Fish and Wildlife, Forest Protection, Lands and Surveys, Parks, and Timber). The list of operating Branches indicates that a multi-use concept of forests is practised but only the programs that foster the growth and use of timber as a crop are discussed here.

Management.—The original function of the Timber Branch was to arrange for the orderly sale of timber and this important function is still carried out along traditional lines—operators are granted a licence to cut specified timber for which they pay stumpage at contractual rates on the measurement (scale) of products removed. However, the details and techniques of utilization are undergoing constant improvement. Although Ontario's forest-based industries have long been a Canadian leader in terms of diversity of products and value of shipments, there is still a surplus of timber over actual cutting in the province. To ensure the continuing supply of timber of the type required by industry, an effective management policy has been conceived. Continuing forest inventories, using aerial photographic methods in which the province pioneered, provide an up-to-date record of the forest wealth, showing the species and other characteristics of stands and their geographical distribution. Inventory data are then applied to management planning; the province has been divided into 205 management units, each homogeneous with respect to forest and use patterns. Long-term plans set out regulations on the volume and location of cuttings and include programs for regeneration and tending that will sustain yields. As of 1967, 149 plans (71 Crown, 52 company, and 26 agreement forest) were completed for approximately 155,000 sq. miles.

The Timber Branch is also responsible for the maintenance and improvement of forest production on Crown lands. It operates 10 forest tree nurseries (with their supporting tree seed collection, treatment, and storage plant), currently geared for an annual output of 60,000,000 units. In addition to plantings by Departmental staff, regeneration agreements have been signed with all major licensees under the terms of which they assume responsibility for the conduct of projects, receiving payment at an agreed rate for work completed. Other annual silvicultural measures include the direct seeding of 9,000 acres scarification and other treatment for natural regeneration on 20,300 acres, and stand improvement treatment (cleaning, thinning, pruning, etc.) on 47,200 acres.

Over the past few years, the Research Branch has been developing a "tubeling" approach to planting, as a conventional planting substitute possessing greater flexibility both in nursery production and in length of planting period per year, so that unforeseen conditions, such as large burns, can be stocked promptly. Briefly, the procedure is to place 200 open-end, split plastic tubes (about $\frac{1}{2}$ " \times 3") in a tray, add soil, seed and covering material, and germinate in portable plastic-covered greenhouses. The tubes and seedling can be inserted intact into the ground at a rate of about 250 per man-hour. The technique was made operational in 1966 and 17,000,000 tubelings of various species were planted. During 1967 the objective was the planting of 25,000,000 tubelings.

For half a century, Ontario has had enabling legislation that permits municipalities to place abandoned and submarginal agricultural lands, to which they have acquired title under agreement with the Department of Lands and Forests, which undertakes to plant and manage the properties for a specified period of time—usually 50 years. Nearly 200,000 acres currently under such agreements have been managed intensively, the plantations receiving regular thinnings. The trees removed are in demand for pulpwood, posts, poles and sawlogs, making the undertakings financially attractive. In addition, the properties that are close to centres of population are acquiring tremendous value as recreational areas.

Owners of private land may purchase planting stock for forestry purposes from government nurseries at nominal prices and may also receive free professional advice on any forestry matter, including silviculture, harvesting and marketing. Under the Woodland Improvement Act, 1966, it is possible to have planting and improvement work carried out completely under government direction and mainly at its expense. In return, the owner is required to meet a few modest demands that ensure his good faith.

In Ontario, the utilization of timber crops, the processing of forest products and the distribution of commodities of wood to markets are functions of private enterprise. Primary mills licensed in 1966 and supplied principally from provincial forests include 2 pulp and paper mills, 28 veneer and plywood mills and 890 sawmills of all types. Although

the consumption trend for wood is upward, the costs of wood at the mills have also been increasing and this has led to increased mechanization and, in turn, to entirely new technologies of logging and product transfers. These changes have put pressure on the traditional methods of wood measurement, and the Department has adopted or is further testing alternative practices including (1) tree length scaling, (2) weight scaling, (3) sample scaling, (4) measurement of log diameters to the full inch, and (5) log grading. In addition, the data and the invoicing of licensees are being computerized.

Certain parts of the Crown forests remain under-developed. For such areas, the Economics Unit has undertaken feasibility studies and has had a principal role in getting new firms to establish. Other functions of the Unit include co-operation in expanding the available statistical information for the forestry sector, development of economic guides for timber management, analysis of current manufacturing costs and market prices, evaluation of the impact of policy decision and economic services to other Branches.

Protection.—The area under organized forest protection in Ontario totals 179,900 sq. miles and includes the main central band of accessible forests. This area is organized into 21 fire districts and further subdivided into 54 chief ranger divisions for the purpose of forest protection. South of this area, in the highly developed agricultural counties of southern Ontario, the municipalities are responsible for fire control; the vast inaccessible areas to the north of the fire districts, totalling some 147,000 sq. miles, do not support significant stands of merchantable timber and, except for communities or other special values, are not protected. Within the five districts, agreements were in effect in 1966 with 214 municipalities and 234 timber licensees for the prevention and control of forest fires. An agreement was also in effect with the Federal Government for the protection by the Ontario Department of Lands and Forests of 873,000 acres of Indian lands in the province. The average annual number of fires for the 1957-66 period was 1,489 and the average annual burn was 143,708 acres.

Forest fire detection is accomplished through a combined lookout-tower and aerial patrol system as well as reports from the public. During 1966 an experimental series-radar system was used to plot lightning storm movement in northwestern Ontario with the objective of delineating areas requiring intensified detection for lightning fire coverage. Also, 300 northern Ontario Indians were recruited and trained to provide a readily available body of skilled forest fire fighters at various key centres. Prescribed burning for hazard reduction and site preparation purposes was carried out on 21 burns covering 4,535 acres. The new water-bombing system, utilizing the interior of aircraft floats to carry the water load, was applied on 135 fires. At the end of the year, the fleet consisted of 29 Beavers, 10 Otters, one Twin Otter and one Super Widgeon; five helicopters were leased during the fire season. The communications system included 320 ground stations, 352 lookout-tower radios, 15 patrol vessel radiotelephones, 579 mobile radiotelephones, 1,218 portable fireline radios, 41 aircraft radio installations and 60 portable aircraft radiotelephones.

Forest pest control was carried out on about 11,500 acres of Crown-owned or Crown-managed forest lands in 1966. The main effort was concentrated on the white pine weevil, the European pine sawfly, the white pine blister rust and the fomes root rot. To provide additional skilled labour for removal of diseased elm trees, the Department initiated and co-ordinated an interdepartmental project to train 55 young Indian men for this work.

Manitoba.—The administration of Manitoba forests is controlled by the Forestry Branch of the Department of Mines and Natural Resources. The Province is divided into four regions, each under a Regional Director who is responsible for the field administration of forests in his region. The Regional Director works under policy guidelines established by the Forestry Branch, relating to timber disposal reforestation and fire protection.

The Forestry Branch co-ordinates control measures for the propagation, improvement and management of the forests, the harvest of forest products, and forest inventory surveys. Two nursery stations are maintained to supply stock for reforestation of denuded Crown

land and some natural seed areas have been established for nursery stock. Seedlings are supplied to farmers for shelterbelts and woodlots and to commercial Christmas tree producers and an average of more than 3,000,000 are planted each year in reforestation projects on Crown lands. The program of forest stand improvement comprises thinning, clearing and chemical spraying to remove undesirable species and encourage growth of preferred trees. Forest inventories cover about 5,500 sq. miles annually and, on the basis of these inventories, working plans with annual allowable cuts on a management unit basis have been brought into operation.

Timber-cutting rights are awarded by Forest Management Licences, Timber Sales and, in certain cases (particularly for salvage operations), by Timber Permits. Forest Management Licences may be granted for periods of up to 20 years and are renewable; Timber Sales may be for varying periods from one year upward and Timber Permits for periods of up to one year. At present, one long-term Pulpwood Berth with an area of 2,745 sq. miles and 10 long-term Timber Berths, all granted prior to 1930, are in force. A second Pulpwood Berth agreement was signed early in 1966, covering the construction of a pulp mill and sawmill at The Pas in northern Manitoba.

The area of the province under forest fire protection is 128,370 sq. miles with zones of priority established in the less accessible areas. Fires are detected through a comprehensive network of lookout towers and supporting air and ground patrols, all tied together by radio and Departmental or public telephones. Two Canso water-bombers and two helicopters are rented for the worst of the fire season to supplement the nine aircraft of the Manitoba Government Air Service.

Manitoba co-operates with several federal services which maintain two research areas in the province, and works closely with federal authorities in investigating and controlling forest damage resulting from insects and diseases. Public education in the fields of fire prevention and forest conservation is carried out and use is made of all usual methods including radio, television, newspapers, signs, talks to school children and club members, film tours, etc.

Saskatchewan.—The forests of Saskatchewan are located mainly in the northern half of the province and cover 117,738 sq. miles, or 53 p.c. of the total land area. Provincial forests constitute approximately 92 p.c. of all forest land in the province and are managed and developed by the Forestry Branch of the Department of Natural Resources.

The Forestry Branch, consisting of five divisions—Administration, Fire Control, Forest Management, Inventory and Silviculture—is responsible for developing and evaluating forest policies and management programs. The responsibility for carrying out such policies and programs is borne by the various regional administrative authorities. For purposes of resource administration, the province, with the exception of the most northern portion, is divided into three regions, each under the supervision of a regional superintendent. The regions are subdivided into conservation officer districts which vary in size according to resource base and population to be served. In the most northerly part of the province, because of various special programs with northern residents, resource administration is the responsibility of the Northern Affairs Branch of the same Department. Close liaison is maintained between the Forestry Branch and the various regional authorities.

A major responsibility of the Forestry Branch is the development of techniques in the prevention, detection and suppression of forest fires. A network of 73 lookout towers equipped with two-way radios is maintained throughout the province and is supplemented by three aircraft on regular patrol duty during the high-hazard periods. Northern Saskatchewan's communication system, with more than 990 two-way radio sets in operation in towers, vehicles, aircraft and forest camps, plays a vital role in the detection and suppression of forest fires. These activities are assisted by the use of three helicopters and seven aircraft equipped for water dropping.

Alberta.—The 157,595 sq. miles of provincial forest in Alberta are administered by the Alberta Forest Service of the Department of Lands and Forests at Edmonton. The Service, headed by the Director of Forestry, is composed of five Branches—Administration, Forest Protection, Forest Management, Forest Surveys and Planning, and Forestry Training. For ease of administration the forest area is divided into 11 Forests, each responsible for the forest within its boundaries. These Forests are composed of Ranger Districts in which all activities are supervised by the district forest officer responsible to his superintendent. Each Forest staff includes: forest superintendent, fire control officer and assistant, forester, mechanical foreman, carpenter foreman, equipment operators, scalers, land-use officers, radio operators, clerks, stenographers, and seasonal help such as standby fire crews, lookout men, general labourers and construction crews. Some Forests employ minimum security crews on management, protection and construction projects.

The Administration Branch supervises all branches, maintains general control over revenue and expenditure, maintains the equipment inventory and deals with personnel.

The Forest Protection Branch has charge of all phases of protection including prevention, detection, suppression and use of forest and prairie fires. The Branch also plans, supervises and executes the construction and maintenance of the road and building programs and supervises the radio communication facilities.

The functions of the Forest Management Branch include the acceptance and approval of management and annual operating plans prepared for leased and licensed Crown lands, implementation of management plans prepared by the Department, supervision of proper land-use practices and the disposal of Crown timber. This extends to all phases including processing of timber applications, selection of timber to be sold, cruising of merchantable timber, inspection of cutting areas to ensure proper logging and utilization practices, scaling of forest products, collection of dues and fees and reforestation programs for areas denuded by cutting and fire. It is also responsible for the implementation and supervision of the new timber quota system.

The Forest Surveys and Planning Branch maintains the provincial forest inventory and prepares and maintains detailed inventories by management units; prepares long- and short-term management plans; provides timber application forest-type maps; conducts other work pertaining to photogrammetry and forest-cover maps; develops and supervises recreational area plans; provides regulation of geophysical activities in the forest area; and provides technical drafting and mapping services.

The Forestry Training Branch prepares training material and conducts training programs for Departmental personnel and other persons concerned with activities of fire control, forest management, forest protection and conservation. It also provides the facilities and instruction for the second year of a two-year forest technology course provided by the Northern Alberta Institute of Technology, and supervises the Provincial Junior Forest Ranger Program.

One Forest and part of two others are included in the Rocky Mountains Forest Reserve. This area is administered by the Alberta Forest Service but decisions of the Director of Forestry are based on policies of wise watershed regulation formed by the Eastern Rockies Forest Conservation Board. The Board comprises one federal and two provincial members. This reserve includes part of the headwaters of the main Prairie Provinces river system. Research in general is carried out by the federal Department of Forestry and Rural Development, which maintains the Kananaskis Experiment Station.

British Columbia.—The productive forest land of British Columbia is inventoried (1958) at 208,411 sq. miles with an additional 59,227 sq. miles of forest land classed as non-productive. Of the productive area, immature timber occurs on 95,739 sq. miles; 84,275 sq. miles carry mature timber estimated at 251,000,000 M cu. ft.; and 28,397 sq. miles are unclassified, including areas of burn, cut-over or windfall not yet re-stocked.

For administrative purposes, the province is divided into five Forest Districts with regional headquarters at Vancouver, Prince Rupert, Prince George, Kamloops and Nelson.

Further decentralization of authority is effected by subdivision into Ranger Districts, of which there are approximately 25 in each Forest District. Twelve directional, servicing or policy-forming Divisions constitute the head office of the Forest Service at Victoria.

Efforts continue to bring British Columbia's forest resources under sustained-yield management and the forest industries are making progress toward more complete utilization of their raw materials. The problem is urgent despite the fact that, with a present annual scale of approximately 1,602,000 M cu. ft., the total inventory would appear sufficient to support current needs in perpetuity. One of the more spectacular results of sustained-yield administration has been the swinging of a greater proportion of the annual forest harvest to the interior of the province. The over-cut coast (wet belt) forests now account for about 56 p.c. of the total forest cut each year and the interior for 44 p.c. For all practical purposes, the entire interior forest is publicly owned; the great majority of privately owned, leased or licensed forests are on the coast.

Several systems of timber disposal are in effect. The most publicized is the Tree Farm Licence, which constitutes a contract between the government and a company or individual whereby the latter agrees to manage, protect and harvest an area of forest land for the best possible return, in exchange for the right to the timber crop on the area. Tree Farm Licences are subject to re-examination for renewal every 21 years. Provincial Forests, Pulp Harvesting Forests and Public Sustained-Yield Units are the governmental equivalent of the Tree Farm Licence with the timber, when it is ready for cutting, being disposed of by public auction. Of major interest is the Pulpwood Harvesting Area plan, unique in North America, which calls for the integration of a 'sawlog' economy with a new pulp industry; five of these Areas have now been established—three in Prince George Forest District, one in Prince Rupert Forest District and one in Kamloops Forest District. Management, silviculture, roadbuilding and protection on such Areas are the responsibility of the Forest Service. Other tenures of lesser importance are Tree Farms, Farm Woodlot Licences, and those Timber Sales issued outside 'regulated' areas.

Forest fire prevention techniques and organization for effective forest fire suppression are vital aspects of planned sustained-yield management. A greatly expanded pulp industry, added to the long-established logging and sawmill industries, has increased the necessity for more adequate fire control. Extensive use is made of aircraft under various terms of contract. Air tankers and fire-spotter aircraft are employed during the fire season and helicopters and other aircraft are employed under contract for patrol duties and for the transport of fire suppression crews. The rugged topography and the many remote and sparsely populated areas of the province demand the availability of a variety of transportation methods to tie in with fast discovery and early attack on all forest fires.

Close liaison with the federal Department of Forestry and Rural Development, through facilities at Victoria and Vernon, provides detailed information on insect and fungal enemies of the forest and on fire research.

Subsection 3.—The Pulp and Paper Research Institute of Canada*

The Pulp and Paper Research Institute of Canada is a centre of research and learning concerned with virtually every aspect of the production and use of pulp and paper products. It was established in 1913 as a branch of the Dominion Forest Products Laboratories and in 1927 was reorganized under the joint sponsorship of the Canadian Pulp and Paper Association, the Federal Government and McGill University. The Institute staff carries out fundamental research and some applied research in the fields of woodland operations and pulp and paper mill operations. In addition, in co-operation with McGill University, it trains postgraduate students who are working toward master's and doctorate degrees in physical chemistry, wood chemistry, or chemical and mechanical engineering, and whose theses subjects lie in fields of interest to the pulp and paper industry.

* Prepared by Miss M. Daly, Pulp and Paper Research Institute of Canada, Montreal, Que.

The Institute's head office and main laboratories are located in Pointe Claire on the western outskirts of Montreal in a recently enlarged building constructed by the Government of Canada. Space provided by the University is also occupied on the campus of McGill University by Institute staff and students involved in the graduate education program. The Institute's facilities include: organic and physical chemistry, physics and engineering laboratories; pilot plants for chemical pulping, pulp and chip refining and waste liquor pyrolysis; a greenhouse and other facilities for woodlands research; an extensive library; shops and special facilities for pulp and paper testing and for photographic and microscopic (both light and electron) studies of wood, pulp and paper. It has a staff of about 195.

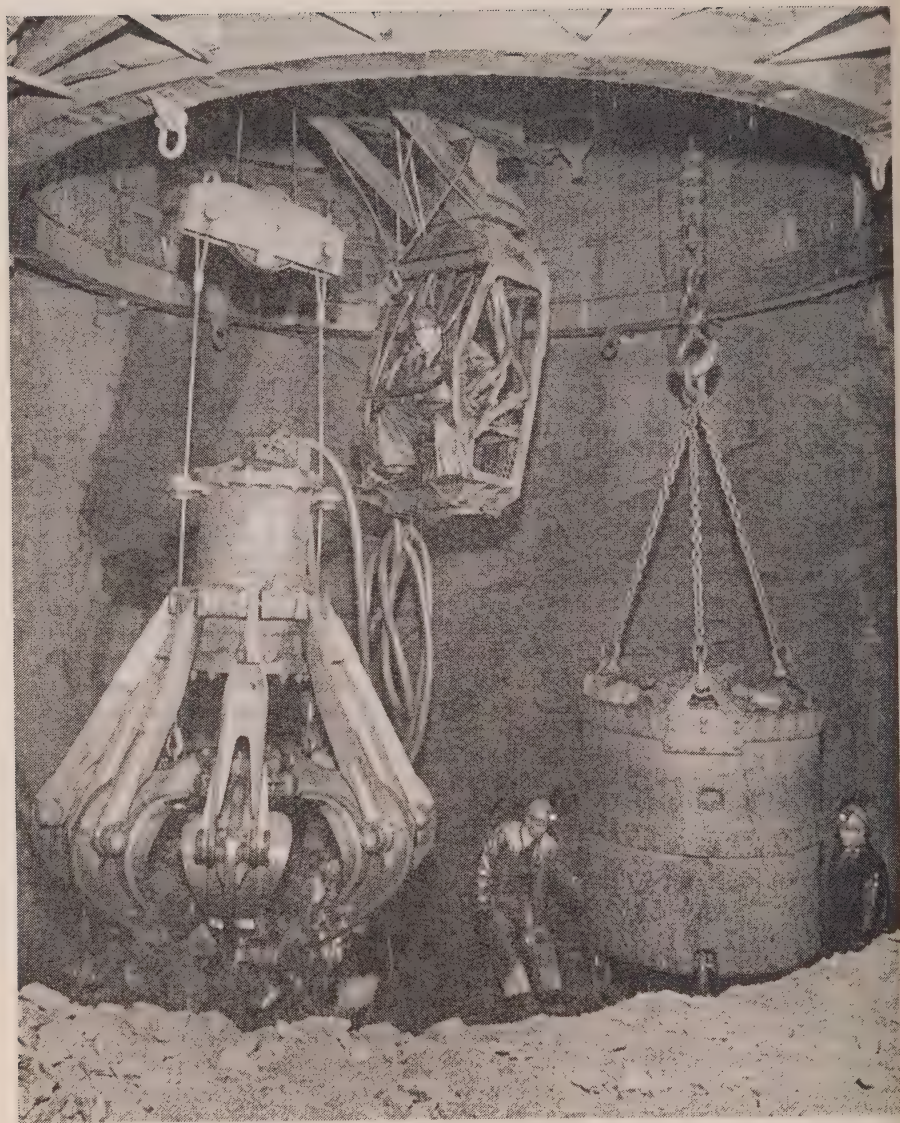
The Institute's research activities comprise a basic program in pulp and paper research and in woodlands research, contract research, and technical services. The basic pulp and paper research program is supported by assessments from the Maintaining Membership (some 40 companies, representing more than 100 mills and about 95 p.c. of the total production of the Canadian industry) and by a grant from the Canadian Pulp and Paper Association. The woodlands research program is supported by assessments on all member companies of the Canadian Pulp and Paper Association east of the Rockies that use pulpwood and by a grant from the Association. Both programs comprise research of interest to the industry broadly, as distinct from that which is the concern of a single company only.

The projects in the basic programs range from studies of the growing seedling in the forest to the converted pulp and paper product, and fall into seven broad classifications: woodlands, mechanical pulping, chemical pulping, paper making, process control, product quality and waste utilization. The Institute is regarded as a centre for broad, long-range and uninterrupted studies of basic principles and for major engineering research and development projects which individual pulp and paper companies would find difficult to justify if the costs were not shared. Moreover, the Institute is a centre of highly specialized equipment and manpower which individual companies would not normally have.

In addition to its permanent staff, the Institute, in co-operation with McGill University, has some 40 graduate students working on fundamental projects in the background of pulp and paper technology, which also serve as their theses topics. The Head of the Institute's Wood Chemistry Division, who is also the E. B. Eddy Professor of Industrial and Cellulose Chemistry at McGill, directs graduate student work on such subjects as the behaviour of the materials of which wood is made—cellulose, lignin and hemicelluloses. The Head of the Institute's Physical Chemistry Division, also a Professor in the McGill Chemistry Department, supervises graduate student work in polymer, surface and colloid chemistry with particular reference to those aspects that pertain to the physics and chemistry of pulp and paper. An Associate Professor of Chemical Engineering at McGill, who is a consultant to the Institute, directs graduate students in a variety of chemical studies. In addition, the Head of the Institute's Wood and Fibre Research Department, who holds a teaching appointment in McGill's Department of Mechanical Engineering, supervises graduate student investigations on such subjects as supercalendering of paper and frictional processes in polymeric systems. Other staff members who hold concurrent honorary positions at McGill as Research Associates assist in this student program.

The Institute also undertakes contract research projects on a cost-reimbursement basis for individual companies or groups of companies in the pulp and paper or allied fields. The larger of these co-operative contracts have been concerned with problems of particular segments of the Canadian pulp and paper industry, such as the investigation into the causes of corrosion in alkaline pulping equipment and the study of the rapid deterioration of paper machine wires.

A further function of the Institute is to provide a broad range of technical information services to the industry and, to some extent, to other industries and the public. It maintains a specialized library for this purpose which stocks bibliographies, abstracts, translations and critical reviews for the use of the scientific staff and the industry.



No. 9 shaft at International Nickel's Creighton mine in the Sudbury district of Ontario will reach its maximum depth of 7,150 feet early in 1969. It is one of two new shafts being sunk at the Company's operating mines. Five new mines in the Sudbury district and three new mines at Thompson, Man., together with general expansion of processing facilities will increase the Company's Canadian annual nickel production capability by 100,000,000 to 150,000,000 lb. by 1970.

CHAPTER XIII.—MINES AND MINERALS

CONSPECTUS

PAGE	PAGE
SECTION 1. CANADA'S MINERAL INDUSTRY—	SECTION 2. GOVERNMENT AID TO THE MIN-
HISTORICAL AND CURRENT..... 565	ERAL INDUSTRY..... 609
Subsection 1. Metals..... 580	Subsection 1. Federal Government Aid.... 609
Subsection 2. Industrial Minerals..... 593	Subsection 2. Provincial Government Aid.. 613
Subsection 3. Petroleum and Natural Gas. 601	SECTION 3. MINING LEGISLATION..... 617
Subsection 4. Coal..... 606	SECTION 4. WORLD PRODUCTION OF CERTAIN
	METALLIC MINERALS AND FUELS..... 621

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Section 1.—Canada's Mineral Industry—Historical and Current*

Historical

Canada's mining industry has a long history of exploration, development and production that pre-dates Confederation in 1867. In the 17th century, silver and copper were discovered in what is now Nova Scotia and the existence of coal on Cape Breton Island and bog iron deposits in the St. Maurice Valley of Quebec was known. Coal was produced in Cape Breton and iron ore for iron-smelting operations was produced in several communities of Quebec in the 18th century. However, it was not until the 1800s that development of mineral resources began on a significant scale and by the middle of that century there had been sufficient mineral activity to give promise of a major resource industry. A number of discoveries had been made in Eastern Canada but the most spectacular was the discovery of gold in British Columbia in the 1850s which brought thousands of people to that area. Settlement, railway construction, agricultural expansion and industrialization have followed many other mineral discoveries in later years.

In the second half of the 1800s mining activity began its accelerating trend, as indicated by a few of the most notable discoveries. In the 1860s a thriving oil industry was established in southwestern Ontario, following an initial discovery near Petrolia in the late 1850s. Asbestos was discovered in the Eastern Townships of Quebec in 1877. In 1883, nickel-copper ores were found at Sudbury in Ontario and in 1886 some 3,000 tons of copper ore were removed; today the area is the world's leading source of nickel. A number of gold, silver and base metal discoveries were made in southern British Columbia in the 1890s, including the great Sullivan mine, following an initial copper-gold discovery at Rossland in 1889. In 1896, the famous Klondike discovery in the Yukon precipitated the world's most spectacular gold rush. At the turn of the century, silver ore was discovered at

* Prepared under the direction of Dr. C. M. Isbister, Deputy Minister of the Department of Energy, Mines and Resources, Ottawa, in the following Divisions: Introduction and Subsections 1 and 3 by the Mineral Resources Division; Subsection 2 by the Mineral Processing Division, Mines Branch; and Subsection 4 by the Fuels and Mining Practice Division, Mines Branch. The Statistics in the tables included throughout the Chapter were compiled in the Industry Division of the Dominion Bureau of Statistics.

Cobalt in northern Ontario, soon followed by the discovery of many other major mining areas including the Porcupine gold mining camp in 1909 and Kirkland Lake in 1911. While exploration was continuing in northern Ontario and Quebec, leading to the Noranda copper find in the Rouyn district in 1921, oil and gas exploration in Western Canada resulted in the discovery of the important Turner Valley field near Calgary in 1913. The introduction of aircraft in mineral exploration in Northern Canada in the 1920s was a key factor in the discovery of pitchblende, a source of radium and uranium, at Great Bear Lake in the Northwest Territories in 1930, and in the finding of a number of gold and base metal deposits in the northern areas of the provinces, the Northwest Territories and Yukon Territory in the 1930s. The Leduc oil discovery in Alberta in 1947 was the beginning of Canada's present oil industry, one of the most thriving sectors of the mineral economy.

Since the immediate postwar period, mineral discoveries have been made in almost every region of Canada and the industry's rapid growth and increasing diversification have had a profound effect on the Canadian economy. The value of mineral output has risen from about \$500,000,000 in 1945 to just over \$1,000,000,000 in 1950 and to nearly \$4,000,000,000 in 1966. Canada now ranks as the world's third largest diversified mineral producer following the United States and the Soviet Union and is the world's largest exporter of minerals and mineral products.

The historical trend of the value of mineral production is shown in Table 1. Statistics are available from 1886 and are given for five-year intervals from that date to 1950 and annually for subsequent years. These figures are not strictly comparable throughout the period because of minor changes in methods of computing metallic content of ores sold and valuations of products but serve as a measure of the tremendous growth of this major industry.

1.—Value of Mineral Production, 1886-1966

Year	Total Value	Value per Capita	Year	Total Value	Value per Capita	Year	Total Value	Value per Capita
	\$	\$		\$	\$		\$	\$
1886.....	10,221,255	2.23	1935.....	312,344,457	28.84	1957.....	2,190,322,392	131.87
1890.....	16,763,353	3.51	1940.....	529,825,035	46.55	1958.....	2,100,739,038	122.99
1895.....	20,505,917	4.08	1945.....	498,755,181	41.31	1959.....	2,409,020,511	137.79
1900.....	64,420,877	12.15	1950 ¹	1,045,450,073	76.24	1960.....	2,462,509,981	139.48
1905.....	69,078,999	11.51	1951.....	1,245,483,595	88.90	1961.....	2,582,300,387	141.59
1910.....	106,823,623	15.29	1952.....	1,285,342,353	88.90	1962.....	2,850,986,179	153.42
1915.....	137,109,171	17.18	1953.....	1,336,303,503	90.02	1963.....	3,050,428,547	161.13
1920.....	227,859,665	26.63	1954.....	1,488,382,091	97.36	1964 ¹	3,390,971,534	175.79
1925.....	226,583,333	24.38	1955.....	1,795,310,796	114.37	1965.....	3,745,470,821	190.67
1930.....	279,873,578	27.42	1956.....	2,084,905,554	129.65	1966.....	3,972,480,919	198.48

¹ Value of Newfoundland production included from 1949.

The Mineral Industry in 1966

The Canadian mineral industry had another year of outstanding achievement in 1966 and established a new high in value of output. Exploration for new deposits and development of properties for production was extensive and widespread in all provinces and in the territories, and announcements were made of new projects and expansions that will increase appreciably the productive capacities for many commodities. Canada's mineral base thus becomes stronger each year, as diversification in output both by commodity and by source increases. The value of total mineral production in 1966 was \$3,972,481,000 compared with \$3,745,471,000 in 1965, an increase of 6 p.c. The metallics sector accounted for \$76,797,000 of the increase, the industrial minerals, including structural materials and non-metallics, for \$76,096,000, and mineral fuels for \$74,118,000.

2.—Value of Mineral Production, by Class, 1957-66

Year	Metallics	Non-metallics	Fuels	Structural Materials	Total
	\$	\$	\$	\$	\$
1957.....	1,159,579,226	169,061,110	564,776,791	296,905,265	2,190,322,392
1958.....	1,130,160,395	150,354,802	510,768,681	309,455,160	2,100,739,038
1959.....	1,370,648,535	178,216,641	535,577,823	324,577,512	2,409,020,511
1960.....	1,406,558,061	197,505,783	565,851,829	322,594,308	2,492,509,981
1961.....	1,387,159,036	210,467,786	653,327,802	331,345,763	2,582,300,367
1962.....	1,496,433,950	217,453,009	780,932,387	356,166,833	2,850,986,179
1963.....	1,509,536,931	253,452,413	908,428,087	379,011,116	3,050,428,547
1964.....	1,701,648,538	287,497,000 ⁺	998,767,672	403,058,324	3,390,971,534 ⁺
1965.....	1,907,575,899	327,238,901	1,076,494,117	434,161,904	3,745,470,821
1966.....	1,984,372,572	363,387,717	1,150,611,731	474,108,899	3,972,480,919

The index of the volume of mineral production, which is a means of measuring the mining industry's absolute growth, was 393.6 (1949=100) compared with 365.6 in 1965. The comparative figures for the indexes for total industrial production for Canada were 274.5 and 254.9. The extent of the industry's growth is also evident from per capita comparisons (see Table 1). The per capita value of mineral output in 1966 was \$198.48, which was three times greater than the 1949 per capita value, compared with the increase in the per capita value of the gross national product of 2.4 times in the same period. Net value criteria, which measure value added in the production process, also point to the dynamic role of mining in the Canadian economy. The rate of increase in mining net value has been about 50 p.c. greater than the net value rate of increase for primary and secondary industries as a whole.

3.—Quantity Indexes of Production of the Principal Mining Industries, 1957-66

(1949=100)

Mineral	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Metallics	188.4	210.4	242.5	236.4	220.4	225.2	227.5	245.7	249.5	256.0
Copper ¹	136.3	131.0	150.0	166.7	166.7	173.6	171.8	187.8	195.6	192.9
Gold ²	104.9	109.2	107.2	109.5	104.9	96.8	92.0	85.9	80.6	73.9
Nickel ¹	146.1	108.4	145.0	166.7	181.0	180.5	168.6	181.0	209.9	185.6
Iron ore.....	544.1	395.0	587.7	578.8	558.7	781.0	916.8	1,185.3	1,236.8	1,322.7
Non-metallics	182.0	172.4	197.6	196.5	214.7	233.6	273.0	312.8	377.2	405.3
Asbestos.....	186.3	177.3	192.1	200.7	222.3	233.5	240.4	259.9	269.4	293.4
Fuels	360.3	331.6	364.6	377.7	433.4	483.5	516.6	557.7	592.8	665.7
Coal.....	65.4	56.8	51.8	53.4	49.9	48.8	51.9	55.1	56.3	54.6
Natural gas.....	290.2	402.9	488.3	591.7	709.7	1,000.6	1,179.8	1,382.3	1,476.4	1,598.0
Petroleum.....	866.5	788.6	880.4	903.1	1,052.3	1,163.2	1,231.6	1,319.2	1,405.5	1,599.4
Total Mining	239.3	243.3	275.4	275.6	283.0	304.7	318.3	346.4	365.6	393.6

¹ Based on commodity data.² Production of the gold mining industry only.

4.—Quantity and Value of Mineral Production, 1965 and 1966

Mineral	1965		1966	
	Quantity	Value	Quantity	Value
		\$		\$
Metallics.....	...	1,907,575,899	...	1,984,372,572
Antimony.....	lb., 1,301,787	689,947	1,405,681	745,011
Bismuth.....	" 428,759	1,195,472	525,659	1,971,886
Cadmium.....	" 1,755,925	4,881,471	3,236,862	8,351,103
Calcium.....	" 159,434	152,848	249,179	245,125
Cobalt.....	" 3,648,332	7,529,143	3,511,169	7,107,963
Columbium (Cb ₂ O ₅).....	" 2,333,967	2,528,051	2,637,997	3,182,170
Copper.....	1,015,753,279	380,951,781	1,012,152,458	453,523,980
Gold.....	oz. t. 3,606,031	136,051,943	3,319,474	125,177,364
Indium.....	" .....	..	..	..
Iron ore.....	ton 39,958,936	413,064,861	40,690,723	431,659,083
Iron, remelt.....	" 384,520	18,171,713	..	17,421,215
Lead.....	lb. 583,614,989	90,460,323	599,244,120	89,527,072
Magnesium.....	" 20,216,369	6,067,057	13,445,701	4,175,743
Mercury.....	" 1,520	12,301	..	..
Molybdenum.....	" 9,557,191	16,730,792	20,596,044	34,670,593
Nickel.....	518,364,019	430,402,105	447,219,823	377,479,471
Platinum group.....	oz. t. 463,127	36,109,799	396,059	32,370,064
Selenium.....	lb. 512,077	2,483,573	575,482	2,791,087
Silver.....	oz. t. 32,272,464	45,181,450	33,417,874	46,751,605
Tellurium.....	lb. 69,794	453,661	72,239	469,553
Thorium.....	" .....	..	87,393	210,528
Tin.....	" 377,207	725,554	710,752	916,870
Tungsten (WO ₃).....	" 3,736,324	3,115,909	..	..
Uranium (U ₃ O ₈).....	" 8,885,213	62,361,377	7,863,690	54,334,787
Yttrium (Y ₂ O ₃).....	" .....	..	20,724	130,223
Zinc.....	1,644,070,657	248,254,768	1,928,212,425	291,160,076
Non-metallics.....	...	327,238,901	...	363,387,717
Arsenious oxide.....	lb. 403,011	13,150	701,537	35,610
Asbestos.....	ton 1,388,212	146,188,473	1,489,055	163,654,893
Barite.....	" 203,025	2,167,006	221,376	2,195,054
Diatomite.....	" 82	4,420	70	3,755
Feldspar.....	" 10,904	252,868	10,924	254,714
Fluorspar.....	"	2,679,862	..	1,895,754
Gem stones.....	lb. 71,129	16,355	11,633	13,225
Grindstone.....	ton 5	1,000	5	1,500
Gypsum.....	" 6,305,629	12,533,384	5,976,164	12,312,220
Helium.....	Mcf. ..	..	..	..
Iron oxide.....	ton 309	13,879	..	10,199
Lithia.....	1,013,565	1,141,426	253,566	260,611
Magnesitic dolomite and brucite.....	ton ..	4,010,927	..	3,948,599
Mica.....	lb. 547,611	25,414	540,720	18,415
Nepheline syenite.....	ton 339,982	3,415,387	366,696	4,109,744
Nitrogen.....	Mcf. ..	..	..	..
Peat moss.....	ton 287,845	8,982,979	284,572	7,187,254
Potash (K ₂ O).....	1,491,301	55,970,527	1,990,053	62,664,666
Pyrite, pyrrhotite.....	" 382,177	1,285,252	326,954	1,139,141
Quartz.....	" 2,433,685	5,123,942	2,299,660	5,514,041
Salt.....	" 4,584,096	23,985,844	4,492,034	23,846,188
Soapstone, talc, pyrophyllite.....	" 52,837	762,302	70,144	1,036,450
Sodium sulphate.....	" 345,469	5,527,281	405,314	6,471,795
Sulphur, in smelter gas.....	" 444,758	4,317,362	500,338	6,050,750
Sulphur, elemental.....	" 2,068,394	26,394,595	2,041,528	40,253,685
Titanium dioxide, etc.....	" 410,255	22,425,094	..	20,505,484
Fuels.....	...	1,076,494,117	...	1,150,611,731
Coal.....	ton 11,588,616	75,901,126	11,391,569	81,559,794
Natural gas.....	Mcf. 1,442,448,070	186,625,459	1,341,833,195	177,631,340
Natural gas by-products.....	bbl. ..	92,377,863	..	99,908,218
Petroleum, crude.....	" 296,418,914	721,589,669	320,542,794	791,512,379
Structural Materials.....	...	434,161,904	...	474,108,899
Clay products.....	" ..	42,837,582	..	42,956,085
Cement.....	ton 8,357,702	142,523,169	8,930,552	156,300,622
Lime.....	" 1,620,404	20,134,308	1,555,037	18,339,724
Sand and gravel.....	" 205,260,264	133,819,824	217,238,710	151,525,102
Stone.....	" 76,758,105	94,847,021	84,874,387	104,987,366
Grand Totals.....	...	3,745,470,821	...	3,972,480,919

1 Includes phosphate valued at \$172.

5.—Percentage of the Total Value Contributed by Principal Minerals, 1957-66

Mineral	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Metallics¹	52.9	53.8	56.9	56.5	53.7	52.5	49.5	50.2	50.9	50.0
Copper.....	9.4	8.3	9.7	10.6	9.9	9.9	9.3	9.6	10.2	11.4
Gold.....	6.8	7.4	6.2	6.3	6.1	5.5	5.0	4.3	3.6	3.2
Iron ore.....	7.6	6.0	8.0	7.0	7.3	9.2	10.3	11.9	11.0	10.9
Lead.....	2.3	2.0	1.6	1.8	1.8	1.5	1.5	1.6	2.4	2.3
Nickel.....	11.8	9.2	10.7	11.9	13.6	13.5	11.8	11.2	11.5	9.5
Platinum group.....	1.2	0.7	0.7	1.2	0.9	1.0	0.7	0.7	1.0	0.8
Silver.....	1.1	1.3	1.2	1.2	1.1	1.2	1.4	1.2	1.2	1.2
Uranium.....	6.2	13.3	13.7	10.8	7.6	5.5	4.5	2.5	1.7	1.4
Zinc.....	4.6	4.4	4.0	4.4	4.1	3.9	4.0	5.7	6.6	7.3
Non-metallics¹	7.7	7.2	7.4	7.9	8.2	7.6	8.3	8.4	8.7	9.1
Asbestos.....	4.8	4.4	4.5	4.9	5.0	4.6	4.5	4.3	3.9	4.1
Gypsum.....	0.4	0.2	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.3
Potash.....	—	—	0.1	—	—	0.1	0.7	0.9	1.5	1.6
Quartz.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Salt.....	0.6	0.7	0.7	0.8	0.8	0.8	0.7	0.6	0.6	0.6
Sodium sulphate.....	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.2
Sulphur in smelter gas.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Sulphur, elemental.....	—	0.1	0.1	0.2	0.3	0.3	0.4	0.6	0.7	1.0
Titanium dioxide, etc.....	0.4	0.3	0.4	0.5	0.6	0.4	0.5	0.6	0.6	0.5
Fuels	25.8	24.3	22.2	22.7¹	25.3¹	27.4¹	29.8¹	29.5¹	28.8¹	29.0¹
Coal.....	4.1	3.8	3.1	3.0	2.7	2.4	2.4	2.1	2.0	2.1
Natural gas.....	1.0	1.5	1.6	2.1	2.6	3.8	4.9	5.1	5.0	4.5
Petroleum.....	20.7	19.0	17.5	17.0	18.9	19.4	20.2	19.9	19.3	19.9
Structural Materials	13.6	14.7	13.5	12.9	12.8	12.5	12.4	11.9	11.6	11.9
Clay products.....	1.6	2.0	1.8	1.5	1.4	1.3	1.3	1.2	1.2	1.1
Cement.....	4.3	4.6	4.0	3.7	4.0	4.0	3.9	3.9	3.8	3.9
Lime.....	0.8	0.9	0.9	0.8	0.7	0.6	0.6	0.6	0.5	0.5
Sand and gravel.....	4.2	4.6	4.3	4.5	4.1	4.2	4.0	3.7	3.6	3.8
Stone.....	2.7	2.6	2.5	2.4	2.6	2.4	2.6	2.5	2.5	2.6
Grand Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Includes minor items not specified.

In terms of value of output, Canada's leading minerals are crude petroleum, copper, iron ore, nickel, zinc, natural gas and asbestos. These seven minerals accounted for 68 p.c. of the total output value in 1966. Table 4 shows the quantities and values of all minerals produced in 1965 and 1966 and Table 5 gives the percentages of the total value contributed by the 26 major items in each of the past ten years. Canada continues to lead the world in the production of nickel and zinc; is in second place in the production of asbestos, uranium, molybdenum, sulphur and gypsum; and stands high in the production of many other minerals including copper, cadmium, cobalt, gold, platinum group, potash, titanium, iron ore, lead, magnesium and silver.

Mineral markets remained strong in 1966, although there was evidence of weakening and conditions of over-supply for some commodities toward the year-end. Lead and zinc prices declined on all markets and voluntary production cuts were made by major producers in several countries. Copper remained in short supply with record prices being reached on the London Metal Exchange; copper was expected to remain in short supply throughout 1967 and perhaps longer as conditions of uncertainty, largely international in nature, are likely to continue. Nickel increased from 79 cents a pound to 85 cents (U.S.) and major expansion programs were announced by Canadian producers to help overcome a tight supply situation. Platinum metal prices fluctuated but were generally higher as supply from Eastern Europe became uncertain. Of the industrial minerals, prices of asbestos, potash and sulphur were higher and, before the end of the year, further increases were announced for 1967.

Many mineral commodities have contributed to the rapid rise in Canada's mineral output and in the diversification that has taken place. In each sector—metallics, industrial minerals and mineral fuels—giant strides have been made by certain minerals. Only in

recent years has Canada become a large producer and exporter of molybdenum, potash and elemental sulphur and only within the past 10 to 15 years has production of petroleum, natural gas, iron ore and uranium contributed significantly to Canada's value of mineral production and exports. The Canadian mineral industry is strongly export-oriented about 60 p.c. of output going to foreign markets. It is the country's leading export industry and in 1966 mineral materials in crude and fabricated forms to the value of \$3,123,000,000 were exported. About 60 p.c. of these went to the United States, 18 p.c. to Britain and 7 p.c. to countries of the European Common Market; the remainder had world-wide distribution.

The rate of growth of the mineral industry is dependent primarily upon Canada's competitive position in world mineral markets. Equally important is the continuing large-scale investment of capital for mineral exploration and development and the expansion of existing production facilities. Capital and repair expenditures in mining, quarrying and oil wells in 1966 reached a record \$1,383,000,000 compared with \$1,084,000,000 in the previous year. Canada is a world leader in the development and/or adoption of new mining techniques and mineral treatment processes so that its competitive position may remain high. To combat rising labour and material costs, overcome shortages of workers and continue with the development of mineral properties in more remote areas it is necessary always to strive for greater productivity and consequent lower cost. To this end research and development by governments and major mining companies play an increasingly important role and much attention is being given to relieving the shortage of engineers and scientists that has plagued the mineral industry in recent years.

In setting a new record in value of output in the metallics sector of the industry, there were many significant developments in Canada and throughout the world. Copper was Canada's leading metallic mineral in 1966 followed by iron ore and nickel. There was increased production of molybdenum and silver with other substantial increases assured for 1967. Canada's two largest nickel producers—International Nickel and Falconbridge Nickel—each embarked on expansion programs that will increase production capacity in Canada to about 700,000,000 pounds a year by 1970 from the current 550,000,000 pounds a year. Notwithstanding higher capacity and production, it is expected that nickel will remain in tight supply for some time. Production of both gold and uranium continued to decline. The outlook for gold continued to be bleak because of rising production costs and a fixed price received for gold but the outlook for uranium brightened considerably. Forecasts indicate that uranium requirements for nuclear-generated electric power will increase appreciably in the 1970s and that Canada will be a major contributor to world supply. Production by 1980 will probably reach, and perhaps surpass, the record 15,892 tons of U_3O_8 set in 1959 when it was the leading metallic mineral in Canada.

In the industrial minerals sector, the outstanding developments in the non-metallics during 1966 were again related to gains for potash in Saskatchewan and elemental sulphur from natural gas in Alberta. Gains will continue to be made by both these important commodities as natural gas production increases and further potash properties are developed in Saskatchewan. There was a growing shortage of elemental sulphur throughout 1966 with consequent price increases. This could lead to a critical shortage and substantially higher price because sulphur, primarily used for the manufacture of sulphuric acid, is one of the world's most needed commodities. It is possible that alternative materials such as pyrite (iron sulphide) may find increasing acceptance as a source of sulphur. It is expected that Canada will become the world's largest potash producer in the 1970s from the extensive beds that underlie much of the southern third of Saskatchewan. They constitute the largest and highest-grade potash reserves in the world and in addition to the three properties in production in 1966 it is expected that at least another six will reach production in the early 1970s. Production of asbestos was at an all-time high in 1966 at nearly 1,500,000 tons of fibre worth \$163,655,000. Canada and the Soviet Union each supply about 40 p.c. of the world's needs. The continuing high production of structural materials was a reflection of the high rate of construction activity throughout Canada.

The production of mineral fuels, embracing crude petroleum, natural gas, natural gas liquids and coal, again set a record in 1966 with crude petroleum and natural gas liquids being at new highs.

Provincial and Territorial Mineral Production in 1966

Ontario in 1966 continued as Canada's leading mineral-producing province, its contribution to the total value being 24.1 p.c. Following in order were Alberta with 21.3 p.c., Quebec with 19.2 p.c., Saskatchewan with 8.8 p.c. and British Columbia with 8.3 p.c. All provinces and territories increased their mineral output in 1966 with the exception of Ontario, Manitoba and the Yukon Territory. Although Ontario still leads in value of production, its share of the total has declined steadily from 37.6 p.c. in 1958 to the present 24.1 p.c. The steady rise in the percentages contributed by Alberta and Saskatchewan is attributable mainly to increased mineral fuels output and, more recently, to greater production of sulphur and potash. It is probable that the mineral production of Ontario and Quebec combined will continue to decline in percentage terms relative to the remainder of Canada because of greater geographical diversification of mineral production by source.

6.—Value of Mineral Production, by Province, 1957-66

NOTE.—Figures from 1899 are given in the corresponding table of previous Year Books beginning with the 1933 edition.

Year	Newfoundland (incl. Labrador)	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
	\$	\$	\$	\$	\$	\$	\$
1957.....	82,682,263	—	68,058,743	23,120,680	406,055,757	748,824,322	63,464,285
1958.....	64,994,754	—	62,706,891	16,275,971	365,706,489	789,601,868	57,217,569
1959.....	72,156,996	4,559,171	62,879,647	18,133,290	440,897,186	970,762,201	55,512,410
1960.....	86,637,123	1,172,587	65,453,531	17,072,739	446,202,726	983,104,412	58,702,667
1961.....	91,618,709	606,644	61,693,156	18,804,385	455,522,933	943,669,456	101,489,787
1962.....	101,858,960	677,906	61,651,093	21,811,575	519,453,166	913,342,174	158,932,169
1963.....	137,796,707	798,345	66,317,617	28,343,419	540,615,068	873,828,297	169,638,539
1964.....	182,152,656	831,283	66,073,596	48,676,712	684,583,430	904,582,694	173,872,576
1965.....	207,557,627	599,387	70,771,827	82,158,352	715,900,973	992,788,746	182,865,972
1966.....	244,020,086	2,756,780	85,416,874	90,221,237	762,944,986	957,857,765	179,241,152
	Saskatchewan	Alberta	British Columbia	Yukon Territory	Northwest Territories	Canada	
	\$	\$	\$	\$	\$	\$	
1957.....	173,461,037	410,211,763	178,931,120	14,111,798	21,400,615	2,190,322,392	
1958.....	209,940,966	345,939,248	151,149,136	12,310,756	24,895,390	2,100,739,038	
1959.....	210,042,051	376,215,593	159,395,092	12,592,378	25,874,496	2,409,020,511	
1960.....	212,093,225	395,344,010	186,261,646	13,330,198	27,135,087	2,492,509,581	
1961.....	215,977,233	473,480,540	188,542,078	12,750,304	18,145,162	2,582,300,387	
1962.....	240,653,502	566,502,703	235,428,135	13,137,730	17,537,066	2,850,986,179	
1963.....	272,355,007	669,311,368	261,146,081	14,366,936	15,911,163	3,050,428,547	
1964.....	292,373,974	735,896,463	268,659,305	15,204,103	18,064,742	3,390,971,534	
1965.....	328,167,375	794,170,720	279,632,883	13,400,535	77,456,418	3,745,470,821	
1966.....	349,303,729	846,678,642	330,843,633	11,975,757	111,220,178	3,972,480,919	

**7.—Value of Metallics, Non-metallics, Fuels and Structural Materials
Produced, by Province, 1965 and 1966**

Year and Province or Territory	Metallics	Non- metallics	Fuels	Structural Materials	Totals
	\$	\$	\$	\$	\$
1965					
Newfoundland (incl. Labrador).....	188,172,863	13,043,166	—	6,341,598	207,557,627
Prince Edward Island.....	—	—	—	599,387	599,387
Nova Scotia.....	1,422,826	15,314,518	45,486,833	8,547,650	70,771,827
New Brunswick.....	62,461,357	1,743,662	8,742,980	9,210,353	82,158,352
Quebec.....	430,240,456	157,999,991	—	127,660,526	715,900,973
Ontario.....	776,031,532	23,088,397	8,949,443	184,719,374	992,788,746
Manitoba.....	148,255,092	3,213,563	12,252,503	19,144,814	182,865,972
Saskatchewan.....	40,867,465	63,582,345	211,333,928	12,383,637	328,167,375
Alberta.....	7,572	26,141,537	735,754,049	32,267,562	794,170,720
British Columbia.....	169,978,438	23,111,722	53,255,726	33,287,003	279,632,889
Yukon Territory.....	13,314,909	—	85,626	—	13,400,535
Northwest Territories.....	76,823,389	—	633,029	—	77,456,418
Canada, 1965.....	1,907,575,899	327,238,901	1,076,494,117	434,161,904	3,745,470,821
1966					
Newfoundland (incl. Labrador).....	225,338,474	12,973,669	—	5,707,943	244,020,086
Prince Edward Island.....	—	—	—	2,756,780	2,756,780
Nova Scotia.....	1,510,111	15,125,247	51,518,674	17,262,942	85,416,974
New Brunswick.....	69,386,294	1,894,992	8,005,535	10,934,416	90,221,237
Quebec.....	456,257,300	171,097,221	340	135,590,125	762,944,886
Ontario.....	732,411,604	23,708,791	10,176,099	191,561,271	957,857,765
Manitoba.....	142,775,326	2,636,725	12,956,474	20,872,627	179,241,152
Saskatchewan.....	41,039,443	71,983,326	224,832,870	11,448,090	349,303,729
Alberta.....	6,886	39,118,700	776,284,956	31,268,100	846,678,642
British Columbia.....	193,359,884	24,845,046	65,928,098	46,706,605	330,843,633
Yukon Territory.....	11,929,367	—	46,390	—	11,975,757
Northwest Territories.....	110,357,883	—	862,295	—	111,220,178
Canada, 1966.....	1,984,372,572	363,387,717	1,150,611,731	474,108,899	3,972,480,919

Newfoundland and Labrador.—The mineral output of this province continues to be one of the most rapidly growing of all provinces or territories mainly because of increased iron ore production from Labrador. Total production in 1966 was valued at \$244,020,000 compared with \$207,558,000 the previous year and metallics output increased to \$225,338,000 from \$188,173,000. Iron ore contributed \$188,603,000 of the 1966 total, nearly \$32,000,000 more than in 1965. Of the more than 16,546,000 long tons of iron ore shipped, about 4,000,000 tons consisted of direct shipping ore from near Schefferville, Que.; about 7,000,000 tons were pellets and some concentrates from the Carol Lake project of Iron Ore Company of Canada at Labrador City; and most of the remainder was shipments of concentrate from Wabush Mines at Wabush in Labrador. Wabana Mines Division of Dosco Ltd. ceased operations on Belle Island near St. John's after more than 7 years of continuous operations. Plans were announced to increase the capacity of the Carol Lake project from 7,000,000 to 10,000,000 long tons a year and the Wabush Mine facilities from 6,000,000 to 7,000,000 long tons a year.

Production of copper, zinc and lead, mainly from the Buchans Mine of American Smelting and Refining Company, was valued at \$17,415,000, \$10,316,000 and \$6,500,000 respectively. Four other mines also produced copper concentrates from plants having mill capacities ranging from 1,150 tons a day to 2,250 tons a day and at least two other areas of copper mineralization were being explored by diamond drilling. Asbestos output from the Baie Verte deposit on the Island of Newfoundland was slightly more than 57,000 tons worth \$9,301,000. The total value of non-metallics output in 1966, at \$12,974,000, was down only slightly from the previous year and the value of structural materials output, at \$5,708,000, was also down slightly.

Prince Edward Island and Nova Scotia.—Prince Edward Island's mineral production is confined to structural materials, which had a value of \$2,757,000 in 1966.

Total value of mineral production in 1966 for Nova Scotia was \$85,417,000 compared with \$70,772,000 in 1965. The output of coal, which by value is the province's major mineral product, was about 7 p.c. lower than in the previous year. The output of non-metallics, valued at \$15,125,000, was about the same as in 1965, gypsum and salt contributing \$8,141,000 and \$4,725,000, respectively.

There has been a steady decline in coal production in Nova Scotia (and New Brunswick) over the past 20 years, during which time many of coal's traditional uses have been taken over by other mineral fuels, notably diesel oil, furnace oil and natural gas. The industry has operated under increasingly difficult conditions as costs continued to rise and markets continued to decline and has received financial assistance for many years under the long-standing federal coal subvention policy. In 1965, a Special Consultant on Coal was appointed by the Federal Government to study and recommend solutions to the Cape Breton coal problem. His report, tabled in the House of Commons on Oct. 11, 1966, recommended, in essence, that the subsidies supporting uneconomic coal production be shifted over the next 15 years to other forms of industrial development and economic activity in the Cape Breton area. The promotion and financing of the redevelopment of the Cape Breton economy is a joint federal-provincial project.

New Brunswick.—Total value of mineral production in New Brunswick in 1966 was \$90,221,000, of which \$69,386,000 was metallics output; zinc contributed \$43,003,000, lead \$15,497,000, copper \$6,366,000, silver \$4,349,000, cadmium \$97,000 and gold \$73,600. Brunswick Mining and Smelting Corporation, with mines near Bathurst and an associated lead-zinc smelter at Belledune Point about 25 miles north of Bathurst, is the province's major base metal producer. A new 2,250-ton-a-day mill started tune-up operations late in the year, bringing the company's total milling capacity to 6,750 tons a day. Brunswick Mining operates two mines and has large reserves of zinc-lead-copper ore and several other companies also have substantial reserves in the Bathurst area. The Wedge Mine of Cominco Ltd. and that of Heath Steele Mines Ltd., the province's other base metal producers, operated throughout the year. Production of mineral fuels, nearly all of it coal, was worth \$8,005,000 and that of structural materials was valued at \$10,934,000.

Quebec.—Quebec follows Ontario and Alberta in value of mineral production, having been displaced from second place in the mid-1950s as production of oil and gas in Alberta added substantially to that province's output. Quebec's mineral production value increased to \$762,945,000 in 1966 from \$715,901,000 the previous year. It is Canada's largest producer of zinc among the base metals and of asbestos among the non-metallics and is second only to Newfoundland in iron ore production. Mining of copper is widespread throughout the province and exploration for it and development of copper properties remained at a high level in 1966. Wexford Mines Ltd., with property in the Gaspé Park area, continued its exploration program to outline substantial reserves of medium-grade copper material. In northwestern Quebec, operations in all copper-producing areas—Noranda, Chibougamau, Matagami, Normetal and Val d'Or—continued at near capacity. In the Eastern Townships the two producers continued operations until strike action in September forced the closure of Solbec Copper Mine. Zinc output continued its year-to-year rise with production in 1966 totalling 293,000 tons, part of which was exported as concentrates and part of which was treated by Canadian Electrolytic Zinc Ltd. at Valleyfield. Two nickel producers reported production totalling 7,951,000 pounds of nickel in concentrates that were shipped to Sudbury in Ontario for smelting. Iron ore production came from three widely separated areas—direct shipping ore from Schefferville, iron ore concentrates from Gagnon, and iron ore pellets from Hilton Mines, Ltd., about 40 miles northwest of Ottawa.

Quebec continues to lead all provinces in the production of non-metallics, output in 1966 being valued at \$171,097,000 compared with \$158,000,000 in 1965. The province produced 1,341,000 tons of the 1,489,000 tons of asbestos fibre shipped from Canadian mines; it was valued at \$138,570,000 and came from the Eastern Townships where first production was recorded almost 90 years ago. Late in the year the postponement of the large asbestos project under consideration in far northern Ungava was announced. Several other non-metallic minerals are produced in Quebec but none of them had a value of more than \$4,000,000 in 1966 except titanium dioxide, made by the electric smelting of ilmenite at Sorel; its output was valued at \$20,505,000. The value of structural materials produced in the province reached an all-time high of \$135,590,000, reflecting a high rate of industrial and construction activity during the year. There is no production of mineral fuels in Quebec.

Ontario.—Ontario's mineral production in 1966 at \$957,858,000, the highest of all provinces, was slightly lower than its 1965 output of \$992,789,000. The main cause of the decline was a reduction in the production of metals by International Nickel from its Sudbury operations caused by strike action during part of August and September.

For many years nickel has led all metallics in value of production; output in 1966 was \$269,462,000 compared with slightly more than \$316,332,000 in 1965. In Ontario, the non-communist world's two largest nickel companies—International Nickel and Falconbridge Nickel—operate 15 mines, three smelters and a copper refinery in the Sudbury area, and International Nickel operates a nickel refinery at Port Colborne. For the recovery of nickel, Falconbridge ships nickel-copper matte to Kristiansand, Norway from its Sudbury smelter. The two companies are proceeding with production expansion plans for mining and processing facilities, which will continue until the early 1970s and will, by 1975, increase Canadian nickel production capacity to 800,000,000 pounds a year from approximately 550,000,000 pounds a year in 1966. Both companies are among the world leaders in the search for new sources of nickel in Canada and in many other areas of the world.

Copper output was also lower in 1966 than in 1965, being 202,976 tons compared with 216,272 tons. Thirteen companies operating 22 mines produced copper in the province during 1966. One of Canada's major base metal developments of the past decade came into production late in the year when Texas Gulf Sulphur Company began operating the first of its three 3,000-ton-a-day concentrator units at its property near Timmins. The Company has substantial reserves of good grade zinc-copper-silver ore and will be a large producer when operating at capacity about mid-1967. Production of iron ore at 8,144,000 tons worth \$91,701,000 was down slightly from 1965. Steep Rock Iron Mines with property at Atikokan, west of Port Arthur, completed its iron ore pellet plant. Two other properties being developed for pellet production—one at Bruce Lake near Red Lake and the other near Temagami—will begin production in 1967 and 1968. The three plants will have a combined capacity of about 4,500,000 tons of iron ore pellets a year. Uranium production from mines in the Elliot Lake area totalled 5,876,000 pounds of uranium oxide (U_3O_8) valued at \$42,758,000. Production of uranium has been declining steadily since the peak year of 1959 but estimates of the quantities that will be required for the generation of electric power indicate that a much higher rate of annual production will be required in the years ahead. As a consequence of the favourable outlook for uranium, many companies have intensified efforts in the Elliot Lake area and elsewhere in Canada to explore and develop additional sources of this metal.

The province's output of non-metallics was valued at \$23,709,000 in 1966, with salt, nepheline syenite and gypsum together contributing \$20,934,000 of that amount. Structural materials were valued at \$191,561,000, about the same as the previous year, and the output of mineral fuels was worth \$10,176,000, natural gas contributing \$5,940,000 and crude petroleum the remainder.

Manitoba.—Mineral output in the province was valued at \$179,241,000 in 1966, slightly lower than the 1965 value. Metallics production was valued at \$142,775,000, of which nickel contributed \$98,447,000, copper \$28,121,000 and zinc \$10,560,000. International Nickel operates the world's only fully integrated nickel production facility at Thompson. During 1966 the company continued to prepare two more mines for underground operation and one mine for open pit operation about 20 miles south of Thompson. Sherritt Gordon operates a mine and mill at Lynn Lake in northwestern Manitoba and a hydro-metallurgical refinery at Fort Saskatchewan in Alberta, where nickel and cobalt are recovered. When present expansion is completed in the Thompson area, it is expected that the province's nickel production capacity will be about 85,000 tons a year compared with the present 60,000 tons a year. Hudson Bay Mining and Smelting continued operations at four copper-zinc mines in Manitoba and at a central concentrator and copper and zinc smelters at Flin Flon. Hudson Bay smelts copper concentrates from Sherritt Gordon's Lynn Lake mine.

Structural materials output in Manitoba was valued at \$20,873,000 and that of crude petroleum at \$12,956,000, both up moderately from 1965 totals.

Saskatchewan.—Total value of mineral output in 1966 was \$349,304,000 compared with \$328,167,000 in the previous year. Mineral fuels contributed \$224,833,000, non-metallics \$71,983,000, metallics \$41,039,000 and structural materials \$11,448,000.

The year was highlighted by the substantial advance in oil and gas production and by the spectacular increase in potash output, the latter being accompanied by continuing wide-scale development of potash deposits in southern Saskatchewan. Three companies—International Minerals and Chemicals Corporation, Kalium Chemicals Ltd., and Potash Company of America—produced potash in 1966 at near-capacity levels. There were also 10 shafts and six potash refineries under construction at six other locations and two additional shafts were planned by companies already engaged in shaft sinking. A record 1,990,000 tons of potash (K_2O) worth \$62,665,000 were produced and it is expected that production will continue upward until the early 1970s when Canada's capacity, all from Saskatchewan, will be over 7,000,000 tons a year. It is probable that Canada will be the world's leading producer of this commodity following 1970.

Most of Saskatchewan's metals production comes from the base metals operations of Hudson Bay Mining and Smelting whose main mine straddles the Manitoba-Saskatchewan border at Flin Flon and from a second mine in Saskatchewan. Uranium production by Eldorado Mining and Refining from the Beaverlodge area in northern Saskatchewan totalled 1,988,000 pounds valued at \$11,577,000 in 1966, down slightly from the previous year. Exploration for uranium resources in the Beaverlodge area was accelerated because of the expected rapid growth in demand in the 1970s.

Alberta.—The fuels sector contributed \$776,285,000 to Alberta's total recorded mineral production value of \$846,679,000 in 1966. Alberta has long been Canada's premier oil-producing province, contributing about 65 p.c. of the country's total production. Natural gas output was valued at \$146,215,000 and natural gas by-products, not including elemental sulphur recovered from it, were valued at \$94,117,000. It was a particularly successful year for exploration and development of further oil and gas reserves and in finding markets for the province's growing output. The Rainbow Lake area, discovered in 1965, was being developed into what may become the country's largest single oil-producing area. It lies in northwestern Alberta and its extent by the year-end has not yet been fully evaluated. To serve growing markets, it is expected that oil and gas pipeline construction from Western Canada, particularly from Alberta, will be considerably higher in the next several years. Of particular significance to Alberta and to Canada will be the opening in late 1967 by Great Canadian Oil Sands Company of the first commercial plant for the extraction of oil from the Athabasca bituminous sands. It has been estimated that the sands constitute one of the world's largest single reserves of oil. There is little production of mineral commodities other than mineral fuels in Alberta. Of the \$39,119,000

production of non-metallics in 1966, over \$37,000,000 was credited to that of elemental sulphur recovered from the processing of natural gas; nearly all remaining mineral production was of the five structural materials.

British Columbia.—Mineral production in 1966 at \$330,844,000 was 18 p.c. higher than in the previous year. Metallics output was valued at \$193,360,000, mineral fuels at \$65,928,000 and structural materials at \$46,707,000.

The metallics sector of the mineral industry was highlighted by gains in production of molybdenum and copper, with property development under way for increasing production of each commodity. Molybdenum output came from three primary producers and one by-product producer. Copper production increased to 105,760,000 pounds from 85,000,000 pounds in 1965, with a value increase to over \$47,450,000 from \$32,000,000. Development of several large-tonnage copper properties was under way and proposals for developing others for early production were receiving serious consideration. British Columbia's production of molybdenum and copper is expected to rise appreciably in the years ahead. The province has long been Canada's main producer of lead and, until recently, of zinc, with output coming primarily from Cominco's operations in the south-eastern part of the province. Lead output of 209,494,000 pounds worth \$31,298,000 and zinc output of 305,124,000 pounds worth \$46,074,000 were both lower than in the previous year. Five iron ore producers shipped a record 2,152,000 tons, all of it to Japan. Exploration for base metal deposits and development of base metal properties remained widespread throughout the province, particular attention being paid to copper and molybdenum.

Asbestos production from Cassiar's deposit in northern British Columbia reached a record \$15,719,000, up slightly from 1965. Its value represented almost 63 p.c. of the province's non-metallic output and most of the remainder was attributed to sulphur, which is recovered as sulphuric acid from lead-zinc smelting and from the processing of natural gas. Output of mineral fuels was valued at \$65,928,000 in 1966, continuing its year-to-year advance. There is continuing encouragement in the search for and development of petroleum and natural gas resources in the northeastern part of the province.

Yukon Territory and Northwest Territories.—Mineral output in Yukon Territory was valued at \$11,976,000 in 1966 compared with \$13,400,000 in the previous year. All of it, except for cadmium worth \$306,300 and coal worth \$46,400, was attributable to the production of silver, lead, gold and zinc. Several developments of importance to the Yukon mineral economy occurred in 1966. United Keno Hill, toward the end of the year, announced that it was curtailing operations because of declining ore reserves; Clinton Creek asbestos deposit was readied for production in 1967 by Cassiar Asbestos Corporation; New Imperial Mines Limited continued development of its copper property a short distance south of Whitehorse for open-pit production in 1967; and final plans were awaited for open-pit zinc-lead production by Anvil Mining Corporation from its property northeast of Whitehorse where substantial reserves of material averaging above 10 p.c. combined lead and zinc have been indicated. It is probable that production from New Imperial and from Anvil would be shipped to Japan.

Production of metallic minerals in the Northwest Territories was valued at \$110,358,000, a substantial rise over the 1965 value of \$76,823,000 contributed by zinc output which increased from \$28,596,000 to \$57,128,000 and lead output which increased from \$25,678,000 to \$31,473,000; gold, at \$15,990,000, was slightly lower than in 1965. The large increase in lead-zinc shipments was the result of the first full year of operations by Pine Point Mines Limited from its holdings on the south shore of Great Slave Lake. The company shipped high-grade ore mined from richer portions of the surface deposits and concentrates of lead and zinc from a 5,000-ton-a-day concentrator. Shipments are made to the Trail, B.C., smelter of Cominco Ltd., which controls Pine Point Mines Limited, and to smelters in the United States, Japan and India.

Mineral	Newfoundland (incl. Labrador)	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon Territory	North-west Territories	Canada	
												1966	1965
Metalliferous	\$ 225,338,474	\$ 1,510,111	\$ 69,386,294	\$ 456,257,200	\$ 735,411,604	\$ 142,775,326	\$ 41,039,443	\$ 6,886	\$ 193,359,884	\$ 11,929,367	\$ 110,357,883	\$ 1,984,372,572	\$ 1,907,575,899
Antimony.....lb.	—	—	—	—	—	—	—	—	1,405,681	—	—	1,405,681	1,301,787
Bismuth.....lb.	—	—	—	471,912	6,312	—	—	—	745,011	—	—	435,011	689,947
Cadmium.....lb.	—	—	37,584	1,757,157	15,881	—	—	—	47,435	—	—	423,769	423,769
Calcium.....lb.	—	—	96,967	286,302	217,237	192,863	141,171	—	198,848	118,735	1,073,400	1,195,472	1,195,472
Cobalt.....lb.	—	—	—	738,659	560,471	497,586	364,221	—	3,017,491	306,336	2,769,372	1,785,925	1,785,925
Cobalt.....lb.	—	—	—	—	249,179	—	—	—	—	—	—	8,581,471	4,881,471
Cobalt.....lb.	—	—	—	84,022	245,125	742,912	—	—	—	—	—	345,173	189,434
Columbium lb.	—	—	—	181,488	2,684,235	1,401,980	—	—	—	—	—	245,125	122,843
Copper.....lb.	—	—	—	2,637,997	5,464,495	—	—	—	—	—	—	3,511,183	2,938,352
Copper.....lb.	—	—	—	3,182,170	—	—	—	—	—	—	—	7,107,963	7,929,143
Copper.....lb.	—	—	—	3,182,170	—	—	—	—	—	—	—	2,637,997	2,583,967
Copper.....lb.	—	—	—	3,182,170	—	—	—	—	—	—	—	3,182,170	3,182,170
Copper.....lb.	—	—	—	3,182,170	—	—	—	—	—	—	—	1,012,152	958,051
Gold.....oz.	—	—	—	1,953	335,459	1,660,750	42,678	182	47,450,169	43,466	424,029	453,623	389,481,781
Indium.....oz.	—	—	—	73,648	62,626,883	2,434,746	1,609,387	6,883	4,551,786	1,639,103	15,990,133	3,319,474	3,606,061
Iron ore.....ton	—	—	—	13,848,441	8,144,289	—	—	—	2,151,804	—	—	40,690,723	39,058,936
Iron.....ton	—	—	—	130,348,844	91,700,740	—	—	—	21,006,240	—	—	431,659,083	413,084,861
Lead.....lb.	—	—	—	17,421,215	3,970,467	1,113,596	—	—	209,494,096	15,975,125	210,659,720	17,421,215	18,171,713
Magnesium.....lb.	—	—	—	1,167,975	13,446,701	166,371	—	—	31,298,418	2,386,684	31,472,562	599,244,120	583,614,989
Molybdenum.....lb.	—	—	—	3,501,117	4,175,743	—	—	—	—	—	—	90,460,323	90,460,323
Nickel.....lb.	—	—	—	7,064,004	—	—	—	—	17,094,927	—	—	13,445,701	20,216,369
Nickel.....lb.	—	—	—	7,064,004	—	—	—	—	27,606,689	—	—	4,175,743	9,067,087
Platinum.....oz.	—	—	—	6,816,703	329,461,584	98,447,063	25,252	—	3,187,712	—	—	20,596,044	9,557,191
Selenium.....lb.	—	—	—	342,151	32,363,566	61,513	107	—	2,731,869	—	—	34,670,593	16,730,792
Silver.....oz.	—	—	—	1,852,432	538,550	298,338	60,818	—	—	—	—	447,219,823	518,364,019
Tellurium.....lb.	—	—	—	5,914,166	10,000,204	547,797	603,358	17	5,548,823	4,194,580	1,662,192	33,417,874	32,272,464
Thorium.....lb.	—	—	—	7,294,500	15,249,085	766,368	844,098	23	7,762,803	5,888,217	2,325,407	46,751,603	45,181,450
Thorium.....lb.	—	—	—	366,721	38,000	3,428	3,390	—	—	—	—	72,239	69,794
Thorium.....lb.	—	—	—	366,726	38,000	22,282	22,035	—	—	—	—	469,553	453,661
Tin.....lb.	—	—	—	87,833	210,528	—	—	—	—	—	—	87,393	—
Tungsten.....lb.	—	—	—	—	—	—	—	—	710,752	—	—	210,528	377,207
Tungsten (WO ₃).....lb.	—	—	—	—	—	—	—	—	916,870	—	—	710,752	735,554
	—	—	—	—	—	—	—	—	—	—	—	916,870	3,736,324
	—	—	—	—	—	—	—	—	—	—	—	—	3,115,909

For footnote, see end of table, p. 579.

8.—Detailed Mineral Production, by Province, 1966 with Totals for 1965—concluded

Mineral	Newfoundland (incl. Labrador)	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon Territory	North-west Territories	Canada	
												1966	1965
Metallics													
—concluded lb.													
Uranium (U ₃ O ₈) lb.	—	—	—	—	5,875,698 42,758,135	—	1,987,992 11,576,652	—	—	—	—	7,863,690 54,334,787	8,885,213 62,361,377
Yttrium (Y ₂ O ₃) lb.	—	—	—	—	20,724	—	—	—	—	—	—	20,724	..
Zinc.....lb.	68,320,955 10,316,464	1,355,574 204,692	284,700,664 83,003,390	586,204,976 88,580,542	130,223 24,883,265	69,933,212 10,559,915	57,818,857 8,730,647	—	305,124,440 46,073,790	11,450,510 1,729,027	1,928,212,425 57,128,344	130,223 291,160,076	1,644,070,657 248,254,768
Non-metallics.	12,973,669	15,425,247	1,894,992	171,097,221	23,708,791	2,636,725	71,983,326	39,118,700	24,849,046	—	—	363,387,717	337,238,901
Arsenicous lb.	—	—	—	—	701,537	—	—	—	—	—	—	701,537	403,011
oxide.	—	—	—	—	53,610	—	—	—	—	—	—	35,610	13,150
Asbestos.....ton	57,037	—	—	1,341,491	1,666	—	—	—	88,771	—	—	1,489,055	1,388,212
Barite.....ton	9,301,204	199,488	—	138,570,399	64,519	—	—	—	15,718,741	—	—	163,654,863	146,188,473
Diatomite.....ton	—	2,022,814	—	—	—	—	—	—	221,376	—	—	203,025	203,025
Feldspar.....ton	—	—	—	—	—	—	—	—	176,240	—	—	2,199,054	2,167,006
Fluorspar.....ton	—	—	—	—	—	—	—	—	70	—	—	82	82
Gem stones.....lb.	—	—	—	—	—	—	—	—	3,755	—	—	3,755	4,420
Grindstone.....ton	—	—	—	—	—	—	—	—	10,924	—	—	10,924	10,904
Gypsum.....ton	—	—	—	—	—	—	—	—	254,714	—	—	254,714	252,868
Helium.....Mcf.	1,890,768	—	—	—	—	—	—	—	—	—	—	—	—
Iron oxides.....ton	459,685	4,502,836	108,207	—	555,185	134,225	—	—	4,986	—	—	1,895,754	2,679,862
Lithia.....lb.	1,173,401	8,140,651	413,074	—	1,581,010	427,211	—	—	11,633	—	—	11,633	71,129
Magnesitic dolomite	—	—	—	—	—	—	—	—	13,225	—	—	13,225	16,355
and brucite.	—	—	—	—	—	—	—	—	5	—	—	5	5
Mica.....lb.	—	—	—	—	—	—	—	—	—	—	—	—	—
Nepheline ton	—	—	—	—	—	—	—	—	—	—	—	—	—
Syenite.	—	—	—	—	—	—	—	—	—	—	—	—	—
Nitrogen.....Mcf.	—	—	—	—	—	—	—	—	—	—	—	—	—
Peat moss.....ton	—	9,359	66,610	117,231	1,700	20,464	..	6,515	61,893	—	—	..	284,845
		1,000,727	1,460,418	9,114,762	30,000	518,195	17,800	121,093	2,408,629	—	—	7,187,254	8,982,979

[illegible]

¹ Includes mercury valued at \$12,301.

* Includes mercury valued at \$12,301.
\$2,556,780 produced in Prince Edward Island.

\$2,366,180 produced in Prince Edward Island.
valued at \$599,387 produced in Prince Edward Island.

² Includes phosphate valued at \$172.

² Includes phosphate valued at \$172.

See footnotes 4 and 5.

^a Includes 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841,

Subsection 1.—Metals

The metallic minerals of greatest dollar value to Canada during 1966 were, in order copper, iron ore, nickel, zinc, gold, lead, uranium and silver. These eight metals, which accounted for 94 p.c. of the total value of metal production in 1966, and several other metals of importance are dealt with separately below.

Copper.—Mine production of copper in 1966 was 506,100 tons valued at \$453,524,000, a decrease of 1,800 tons but an increase of \$72,572,000 over 1965. Domestic consumption of refined copper increased and this, combined with a slight decrease in production, resulted in a decrease in refined copper exports. Lower mine output in Ontario, because of strikes at mines in the Sudbury area, was offset by increased production in Newfoundland, Manitoba, Saskatchewan, British Columbia and the Northwest Territories. New mines were brought into production in Newfoundland, New Brunswick, Quebec, Ontario and Saskatchewan. One mine was closed in British Columbia.

Six smelters for the reduction of copper and nickel-copper ores and concentrates are operated in Canada. In the Sudbury district of Ontario, International Nickel operates two smelters at Copper Cliff and Coniston, and Falconbridge Nickel produces nickel-copper matte at its Falconbridge smelter. Hudson Bay Mining and Smelting Co., Limited at Flin Flon, Man., smelts concentrates from its mines in Manitoba and Saskatchewan and copper concentrates from the mine of Sherritt Gordon at Lynn Lake, Man. Ores and concentrates from most of the copper mines in Ontario, Quebec and Newfoundland are smelted at the Noranda smelter of Noranda Mines Limited and the Murdochville smelter of Gaspé Copper Mines Limited, both in Quebec. Electrolytic copper refineries are operated by International Nickel at Copper Cliff and by Canadian Copper Refiners Limited, a subsidiary of Noranda Mines, at Montreal East, Que. Production of refined copper in 1966 was 433,900 tons, 200 tons less than in 1965.

Newfoundland's copper production from six mines in 1966 was 19,400 tons valued at \$17,415,000, an increase of 4,600 tons and \$6,268,000 over 1965. Consolidated Ramblin Mines Limited started production from its East mine and First Maritime Mining Corporation Limited continued development of its Gullbridge mine at Gull Pond. New Brunswick's three producers were joined by a fourth in 1966 when Brunswick Mining and Smelting Corporation Limited brought its No. 6 open-pit mine into production. Output in New Brunswick decreased in 1966 to 7,100 tons valued at \$6,366,000 from 10,100 tons at \$7,581,000 in 1965.

Production in Quebec was slightly lower in 1966 than in 1965 despite output from two new mines, totalling 172,000 tons valued at \$154,455,000 compared with 174,000 tons worth \$130,801,000. Production in 1967 should be higher with increased output from Murdochville and production from new mines at Chibougamau, Joutel and Matagami.

Strikes at the Sudbury area mines and a lack of skilled miners reduced Ontario's 1966 output to 203,000 tons valued at \$181,376,000 from the 216,300 tons worth \$161,665,000 in 1965. International Nickel produced nickel-copper ore from 10 mines in the Sudbury district and had four mines under development in the area. Falconbridge operated six mines and had two mines under development. Texas Gulf Sulphur Company started production from its open-pit mine near Timmins when throughput started in November at the first of three units in its 9,000-ton-a-day mill. Full production was expected in the first quarter of 1967. Canadian Jamieson Mines Limited started production at its copper-zinc mine near Timmins. Other copper-producing mines in Ontario include Kam-Kotia and McIntyre-Porecupine at Timmins; Copperfields at Timagami; Rio Algonquin at Spragge; Willroy, Willecho and Noranda's Geco at Manitouwadge; North Coast at Kashabowie and Metal Mines at Werner Lake. Production in 1967 is expected from Munro Copper Mines Limited near Matheson, from Tribag Mining Co., Limited near Batchawana and from Kidd Copper Mines Limited near Sudbury.

Manitoba-Saskatchewan's two major producers, Hudson Bay Mining and Smelting and Sherritt Gordon were joined by Anglo-Rouyn Mines Limited in 1966. Combined output from these mines was 50,900 tons valued at \$45,686,000, 1,300 tons more than in 1965. Hudson Bay operated a central mill and a copper smelter at Flin Flon, Man., on ores from the Schist Lake, Chisel Lake and Stall Lake mines near Snow Lake, Man., and from the Flin Flon mine that straddles the Manitoba-Saskatchewan boundary. Hudson Bay is developing the Osborne Lake, Anderson Lake and Ghost Lake mines near Snow Lake and the Flexar mine in Saskatchewan. Sherritt Gordon produced copper concentrates at Lynn Lake in Manitoba for shipment to the Flin Flon smelter and nickel-copper concentrates for shipment to its own smelter at Fort Saskatchewan, Alta. The company has built a mining plant and started shaft sinking at its copper-zinc deposit at Fox Lake, some 34 miles southwest of Lynn Lake.

Production in British Columbia at 52,900 tons worth \$47,450,000 was 24 p.c. higher than in 1965. Full production from the eight producing mines accounted for the increase. The Sunro mine of Cowichan Copper Co. Ltd. closed in September because of financial difficulties. Western Mines Limited completed initial mine development and construction of its plant and 750-ton-a-day mill at the south end of Butte Lake on Vancouver Island; production will start in 1967. At Babine Lake northeast of Smithers, The Granby Mining Company Limited completed construction of a 5,000-ton-a-day mill preparation of its Granisle orebody for open-pit mining. Granduc Mines Limited continued driving the access tunnel from Tide Lake, north of Stewart, to its orebody on the Unuk River; production is scheduled for 1969.

In Yukon Territory, New Imperial Mines Limited was building a 2,000-ton-a-day mill and was preparing the Little Chief orebody for open-pit mining in 1967; concentrates will be exported to Japan.

9.—Producers' Shipments of Copper, by Province, and Total Value 1957-66

NOTE.—Figures from 1886 are given in the corresponding table of previous Year Books beginning with the 1916-17 edition.

Year	New-foundland	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
	tons	tons	tons	tons	tons	tons
1957.....	4,536	—	5,738	112,409	171,703	18,551
1958.....	14,751	—	328	131,445	142,035	12,601
1959.....	14,989	—	—	134,912	188,272	12,945
1960.....	13,863	—	—	157,470	206,272	12,793
1961.....	15,752	—	—	149,007	211,647	12,454
1962.....	17,308	204	3,674	147,431	188,995	12,738
1963.....	14,012	237	8,964	141,400	178,960	16,980
1964.....	13,615	204	9,296	158,088	197,917	29,777
1965.....	14,823	187	10,082	173,938	216,272	30,808
1966.....	19,394	115	7,089	171,998	202,976	31,315
	Saskatchewan	British Columbia	Yukon Territory	Northwest Territories	Canada	
					Quantity	Value
	tons	tons	tons	tons	tons	\$
1957.....	30,597	15,410	—	165	359,109	206,897,988
1958.....	37,510	6,010	—	434	345,114	174,430,930
1959.....	35,836	8,121	—	494	395,269	233,102,813
1960.....	31,785	16,559	—	520	439,262	264,846,637
1961.....	33,479	15,845	440	463	439,087	255,157,626
1962.....	32,017	54,489	215	314	457,385	282,732,696
1963.....	29,772	62,218	—	16	452,559	284,403,710
1964.....	20,442	57,561	—	—	486,900	324,467,834
1965.....	18,732	42,565	—	471	507,878	380,951,781
1966.....	19,561	52,880	—	748	506,076	453,523,980

Iron Ore.*—Iron ore shipments in 1966 amounted to 36,331,000 long tons, an all-time high, valued at \$431,659,000. Newfoundland-Labrador was the largest producing province with output of 14,773,000 long tons, followed by Quebec with 12,365,000, Ontario with 7,272,000 and British Columbia with 1,921,000. Seventeen companies were directly engaged in iron ore mining—one on the Island of Newfoundland, one in Labrador, one with mines in both Labrador and Quebec, two in Quebec, six in Ontario and six in British Columbia. In addition, four companies shipped iron ore as a by-product of base metal operations.

In Newfoundland, Dosco Industries Limited closed its Bell Island mine on June 30 after 72 years of continuous operation; shipments from the mine since 1892 totalled 78,989,412 tons. The Iron Ore Company of Canada with operations in both Labrador and Quebec commenced an expansion program to increase production at its Labrador City concentrator from 7,000,000 to 10,000,000 long tons annually and its pellet-producing capacity at Sept Îles, Que., from 5,500,000 to 10,000,000 tons annually. Wabush Mines, which operates mines in Labrador, commenced the expansion of its concentrator capacity at Wabush from 5,300,000 tons to 6,000,000 tons annually and of its pellet plant at Pointe Noire, Que., to the same capacity. In Ontario, Algoma Steel Corporation Limited and Steep Rock Iron Mines Limited combined to begin construction of a 1,350,000-ton-a-year pellet plant. In British Columbia, a labour strike closed operations at Brynnor Mines Limited from July until the year-end. Orecan Mines Ltd. suspended operations in September.

Iron Ore Company of Canada, with direct-shipping ore from deposits on both sides of the Labrador-Quebec border at Schefferville and a concentrating-grade deposit near Labrador City, is the largest shipper of iron ore in Canada, accounting for 36 p.c. of the 1966 shipments. Quebec Cartier Mining Company accounted for 19 p.c. and other shippers were Wabush Mines in Labrador; Hilton Mines, Ltd., in Quebec; and Algoma Ore Properties Division of Algoma Steel Corporation, Steep Rock Iron Mines Ltd., Calanc Ore Company Ltd., National Steel Corporation of Canada (formerly Lowphos), Marmoraton Mining Company, and Adams Mine (Jones & Laughlin Steel Corporation) in Ontario. In British Columbia six companies shipped iron ore—Zeballos Iron Mines Limited, Texada Mines Limited, Brynnor Mines Limited, Jedway Iron Ore Limited, Empire Development Company Limited, and Orecan Mines Ltd. By-product iron ore producers were Cominco Limited, International Nickel, Falconbridge Nickel and Coast Copper Co. Ltd.

Pellet shipments in 1966 amounted to 12,300,000 tons, an increase of 12 p.c. over 1965. Shipments were made by Carol Pellet Company in Labrador; Arnaud Pellets and Hilton Mines in Quebec; Adams Mine, National Steel Corporation of Canada, Marmoraton Mining Co., Ltd., and International Nickel in Ontario.

Annual iron ore productive capacity in Canada at the end of 1966 was 46,000,000 tons, which included 15,600,000 tons of pellets. On completion of planned iron ore pellet plants, productive capacity will be 23,700,000 tons a year in 1968. In British Columbia Wesfrob Mines Ltd. continued to prepare, for production in mid-1967, a plant capable of producing more than 1,000,000 tons of iron ore concentrates a year; 40 p.c. of the concentrate will be sinter feed and the remainder pellet feed. In Ontario, the Griffith Mine on the west shore of Bruce Lake and the Sherman Mine five miles from Temagami continued preparations for production in 1968. The Griffith Mine is owned by the Steel Company of Canada Ltd. and will produce 1,500,000 tons of pellets a year; the Sherman Mine is 90 p.c. owned by Dominion Foundries and Steel Limited and will have a capacity of 1,200,000 tons of pellets a year.

Canadian iron ore is consumed by steel industries in five main market areas—Canada, the United States, Britain, Japan and Western Europe. Shipments to domestic steel plants, to the United States and to Western Europe were higher in 1966 than in the previous year but those to Japan and Britain were lower. The United States is the world's largest

* All quantities of iron ore and concentrates given in the text are in long tons of 2,240 lb.; quantities in Table are in short tons of 2,000 lb.

iron ore importer and is Canada's largest market, accounting for 66 p.c. of total Canadian shipments and nearly 80 p.c. of exports in 1966. The decline in shipments to Britain from 2,900,000 tons in 1965 to 2,200,000 tons in 1966 was mainly the result of intensive competition from West African ores. Total Canadian exports in 1966 were 30,700,000 tons compared with 30,800,000 tons in 1965. Canadian consumption, at 9,800,000 tons, was up only slightly from 1965 and imports, at 4,300,000 tons, were down 9 p.c. Most imported ore came from Michigan and Minnesota in the United States; 328,000 tons came from Brazil.

10.—Iron Ore Shipments and Production of Pig Iron and Steel Ingots and Castings, 1957-66

(Quantities are in short tons)

Year	Iron Ore Shipments						Production of Pig Iron	Production of Steel Ingots and Castings
	Newfound-land (incl. Labrador)	Quebec	Ontario	British Columbia	Canada			
					Quantity	Value		
	tons	tons	tons	tons	tons	\$	tons	tons
1957.....	8,174,779	8,872,948	4,867,105	357,342	22,272,174	167,221,425	3,718,350	5,068,149
1958.....	5,390,775	6,060,325	3,644,952	630,271	15,726,323	126,131,181	3,059,579	4,359,466
1959.....	6,105,819	11,515,169	6,018,089	849,248	24,488,325	192,666,101	4,182,775	5,901,487
1960.....	7,611,365	7,457,971	5,325,197	1,156,297	21,550,830	175,082,523	4,298,849	5,809,108
1961.....	7,611,340	5,639,931	5,772,664	1,335,068	20,359,003	187,950,047	4,946,021	6,488,307
1962.....	7,986,910	11,163,982	6,414,936	1,793,848	27,359,676	263,004,217	5,276,753	7,173,534
1963.....	9,683,004	11,650,787	6,749,617	2,060,241	30,143,649	313,182,963	5,914,997	8,190,279
1964.....	12,763,575	15,512,916	8,046,769	2,002,562	38,325,822	404,951,696	6,550,835	9,132,174
1965.....	14,500,495	14,817,820	8,475,218	2,165,403	39,958,936	413,064,861	7,079,439	10,068,091
1966.....	16,546,189	13,848,441	8,144,289	2,151,804	40,690,723	431,659,083	7,211,684	10,002,868

Nickel.—Canadian nickel production in 1966 was 223,600 tons valued at \$377,479,000, a decrease in volume of close to 14 p.c. and in value of 12.3 p.c. from 1965. Reduced production resulted from labour strikes at Sudbury and a lack of skilled workers. Canada supplied about 70 p.c. of the non-communist world's nickel in 1966.

In Ontario, International Nickel operated ten mines and two smelters near Sudbury, a refinery at Port Colborne, and was developing five mines in the Sudbury area. Also near Sudbury, Falconbridge operated six mines and a smelter and was developing two mines. In Manitoba, International Nickel operated an integrated nickel mining-concentrating-smelting-refining facility at Thompson and was developing three new mines. Sherritt Gordon's Lynn Lake mine continued to produce nickel concentrates for treatment at the company's chemical refinery at Fort Saskatchewan in Alberta. Nickel matte was imported by Sherritt to supplement the Lynn Lake concentrates. In Quebec, Marbridge Mines Limited, in La Motte Township, produced a bulk nickel-copper concentrate for treatment at Falconbridge's smelter. Lorraine Mining Company Limited, near Belleterre, shipped nickel concentrates to International Nickel for smelting. In northwestern Ontario, the Werner Lake mine of Metal Mines Limited produced a bulk nickel-copper concentrate that was shipped to International Nickel at Sudbury for smelting. Giant Mascot Mines Limited, near Hope, B.C., produced nickel-copper concentrates for export to Japan.

Nickel prices were raised on Nov. 1, 1966 from 84 cents (Cdn.) a pound to 92.15 cents (Cdn.) a pound in Canada, and from 77.75 cents (U.S.) a pound to 85.25 cents (U.S.) a pound in the United States. The suspension of the duty of 1½ cents a pound on nickel entering the United States remained in force in 1966. Both prices are f.o.b. Port Colborne, Ont.

11.—Producers' Shipments of Nickel, by Province, and Total Value 1957-66

Year	Quebec	Ontario	Manitoba	British Columbia	Northwest Territories	Canada	
						Quantity	Value
	tons	tons	tons	tons	tons	tons	\$
1957.....	—	177,396	10,034	—	528	187,958	258,977,309
1958.....	—	127,144	9,778	704	1,933	139,559	194,142,019
1959.....	—	173,964	10,139	531	1,921	186,555	287,008,801
1960.....	—	201,650	9,059	1,890	1,907	214,506	295,640,279
1961.....	—	196,218	32,978	2,090	1,705	232,991	351,261,720
1962.....	1,540	166,582	61,482	1,738	900	232,242	383,784,622
1963.....	2,506	149,085	63,585	1,850	—	217,030	360,392,658
1964.....	2,338	162,094	62,365	1,699	—	228,496	379,320,510
1965.....	3,026	191,283	63,212	1,661	—	259,182	430,402,105
1966.....	3,975	160,214	57,812	1,594	—	223,610 ¹	377,479,471

¹ Includes 15 tons of producers' shipments in Saskatchewan.

Lead and Zinc.—Production of lead in 1966 totalled 299,600 tons, about 3 p.c. more than in 1965. Refinery production at Trail, B.C., was 184,900 tons, 1,600 tons less than in 1965. Late in 1966 the lead-zinc smelter of East Coast Smelting and Chemical Company Limited, a subsidiary of Brunswick Mining and Smelting Corporation Limited, began operations at Belledune Point, N.B., and became Canada's second primary lead producer; the plant has an annual capacity of 48,000 tons of lead metal. Exports of lead in ores and concentrates totalled 112,900 tons of contained lead, compared with 107,000 tons in 1965, and went mainly to the United States and Belgium with lesser amounts to Japan, West Germany and Britain. Exports of refined lead amounted to 106,500 tons, 22,600 tons less than in the previous year. The lead price, f.o.b. Toronto and Montreal, was 15.5 cents a pound from the beginning of 1966 until May 5, 15.0 cents until Oct. 11, and 14.0 cents for the remainder of the year.

Zinc production reached a record 964,100 tons in 1966, 142,100 tons more than in 1965. Refined zinc output rose from 358,500 tons in 1965 to 382,600 tons in 1966. Canadian Electrolytic Zinc Limited expanded capacity of its Valleyfield, Que., plant from 84,000 to 140,000 tons annually. Late in 1966, East Coast Smelting and Chemical Company Limited (see paragraph above) became Canada's fourth primary zinc producer. Exports of zinc in ores and concentrates, totalling 591,300 tons, went mainly to the United States, Belgium, the Netherlands and Japan. Refined exports amounted to 256,200 tons and went mainly to the United States and Britain. The zinc price remained unchanged throughout 1966 at 14.5 cents a pound.

Production of lead and zinc in the Northwest Territories in 1966 rose substantially, to 105,300 tons and 189,200 tons, respectively, as a result of the first full year of production of the 5,000-ton-a-day concentrator at Pine Point on the south shore of Great Slave Lake. Lead and zinc concentrates were produced in the Yukon Territory by United Keno Hill Mines Limited, which operates mines in the Mayo district, 200 miles north of Whitehorse, Y.T.

British Columbia's production was mainly from the southeastern part of the province, most of it being accounted for by Cominco Ltd., which operates the Sullivan mine at Kimberley and the Bluebell mine at Riondel; operations at its H.B. mine at Salmo were suspended on Nov. 1, 1966. Daily lead-zinc ore production at the Sullivan and Bluebell

mines was 10,000 and 700 tons, respectively. Other producers in this part of the province included Canadian Exploration, Limited at Salmo, Reeves MacDonald Mines Limited at Remac, Aetna Investment Corporation Limited at Toby Creek, and Giant Soo Mines Limited near Wasa, which began operations in late 1966. Also in late 1966, production began at the zinc-copper-lead mine of Western Mines Limited on Vancouver Island. British Columbia's only producer of copper-zinc ore was the Britannia mine of the Anaconda Company (Canada) Ltd. There are a number of smaller lead-zinc producers in British Columbia; Cominco Ltd. treats ores and concentrates from most of these properties and some from the Yukon Territory at its Trail smelters.

Lead and zinc were recovered by Hudson Bay Mining and Smelting Co., Limited from copper-zinc-lead ores of its Flin Flon mine on the Saskatchewan-Manitoba border and from the Schist Lake mine near Flin Flon and the Chisel Lake and Stall Lake mines 90 miles east of Flin Flon.

In Ontario, Noranda Mines Limited (Geco Division), Willecho Mines Limited, and Wilroy Mines Limited, all at Manitowadge, produced zinc, lead and copper concentrates; Kam-Kotia Porcupine Mines Limited near Timmins produced copper concentrates and a small tonnage of zinc concentrates. Three new mines were opened in 1966—the Zenmac near Schreiber, the Canadian Jamieson at Timmins, and the Texas Gulf near Timmins. When operating at full capacity Texas Gulf will be one of the largest mine producers of zinc in Canada. Zinc concentrates from Ontario and Quebec mines were roasted by Sherbrooke Metallurgical Company Limited at Port Maitland on Lake Erie and the resulting calcine was shipped to the United States for final treatment.

Quebec's 1966 lead production dropped somewhat below that of 1965 but its zinc mine output at 293,100 tons was about 7 p.c. higher. The New Hosco mine, which had been producing copper concentrates since 1963, commenced production of zinc concentrates in August 1966 and a new producer, Mines de Poirier, Inc., a subsidiary of Rio Algom Mines Limited, opened a 1,500-ton mill to treat ore from its copper-zinc mine in Poirier township, expanding capacity during the year to 2,500 tons daily to provide for processing copper ore from nearby Joutel Copper Mines Limited. Other mine producers in Quebec were the Normetal (copper-zinc), Quemont (copper-zinc), Manitou-Barvue (copper-zinc-lead), and Lake Dufault (copper-zinc), all in the Noranda-Val d'Or area; New Calumet (zinc-lead) at Calumet Island on the Ottawa River; Coniagas (zinc-lead-silver) at Bachelor Lake; and Cupra (copper-zinc-lead) and Solbec (copper-zinc-lead), both in the Sherbrooke district.

New Brunswick's production of lead and zinc was up about 19 p.c. and 15 p.c., respectively, compared with 1965. In 1966, Brunswick Mining and Smelting Corporation Limited brought into production its No. 6 zinc-lead-copper mine near Bathurst, its ore being milled at a newly constructed 2,250-ton-a-day concentrator. Heath Steele Mines Limited, near Newcastle, produced zinc, copper and lead concentrates and started an expansion program to double ore production by 1968. Magnet Cove Barium Corporation, at Walton, remained Nova Scotia's only lead-zinc producer. In Newfoundland, production continued at the zinc-lead-copper mine of American Smelting and Refining Company at Buchans and zinc concentrates were recovered from the copper-zinc ore produced by Consolidated Rambler Mines Limited near Baie Verte.

Exploration and development were carried out in many areas during 1966, notably at Pine Point in the Northwest Territories and Ross River in the Yukon Territory. New mines were under development near Bathurst, N.B., in the Joutel-Poirier district 60 miles north of Amos, Que., in northern Manitoba, in northern Saskatchewan and in southeastern British Columbia.

12.—Producers' Shipments of Lead from Canadian Ores, by Province, and Total Value, 1957-66

Year	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario
	tons	tons	tons	tons	tons
1957.....	24,512	—	1,170	2,709	506
1958.....	23,980	—	94	3,150	1,256
1959.....	22,457	—	—	2,910	1,611
1960.....	24,022	—	—	2,669	831
1961.....	21,968	—	—	3,392	835
1962.....	25,330	2,682	1,879	4,716	1,144
1963.....	23,392	1,400	1,783	4,337	1,539
1964.....	25,415	1,669	21,716	3,954	2,027
1965.....	21,916	1,841	43,654	4,213	1,943
1966.....	21,754	1,488	51,864	3,909	1,985

	Manitoba	British Columbia	Yukon Territory	Northwest Territories	Canada	
					Quantity	Value
	tons	tons	tons	tons	tons	\$
1957.....	—	140,094	12,493	—	181,484	50,670,407
1958.....	—	147,417	10,783	—	186,680	42,413,805
1959.....	—	148,522	10,796	—	186,696	36,616,835
1960.....	1,037	166,947	10,144	—	205,650	43,926,888
1961.....	3,054	192,800	8,385	—	230,435	47,054,765
1962.....	3,792	167,641	8,145	—	215,329	42,721,341
1963.....	2,737	157,487	8,490	—	201,165	44,256,199
1964.....	1,295	134,369	10,209	3,063	203,717	54,759,110
1965.....	1,316	125,167	8,926	82,831	291,807	90,460,323
1966.....	557	104,747	7,988	105,330	299,622	89,527,072

13.—Producers' Shipments of Zinc, by Province, and Total Value, 1957-66

Year	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
	tons	tons	tons	tons	tons	tons
1957.....	35,698	—	3,314	74,295	11,296	13,720
1958.....	33,870	—	3,162	56,923	46,239	11,512
1959.....	31,674	—	—	47,058	44,982	15,702
1960.....	34,208	—	—	49,807	45,230	24,390
1961.....	34,638	—	—	54,005	51,937	46,560
1962.....	32,541	757	2,498	70,737	63,132	49,920
1963.....	34,485	—	10,614	75,084	66,470	46,390
1964.....	38,982	595	54,372	236,540	72,076	42,640
1965.....	36,187	299	123,595	272,883	60,675	40,760
1966.....	34,160	678	142,395	293,148	82,395	34,960

	Saskatchewan	British Columbia	Yukon Territory	Northwest Territories	Canada	
					Quantity	Value
	tons	tons	tons	tons	tons	\$
1957.....	45,070	221,779	8,560	—	413,741	100,042,53
1958.....	48,328	217,304	7,761	—	425,099	92,501,49
1959.....	46,877	203,092	6,623	—	396,008	96,942,66
1960.....	42,703	203,833	6,702	—	406,873	108,635,00
1961.....	28,360	194,486	6,069	—	416,004	104,749,87
1962.....	30,899	206,716	5,944	—	463,144	112,080,98
1963.....	33,320	201,432	5,925	—	473,722	121,083,46
1964.....	28,437	200,399	6,547	3,920	684,513	193,990,88
1965.....	27,983	158,336	6,624	94,690	822,035	248,254,76
1966.....	28,909	152,562	5,725	189,167	964,106	291,160,06

Gold.—Canadian gold production in 1966 amounted to 3,319,000 oz.t. valued at \$125,177,000, a decline of 8.0 p.c. from 1965. The average price for gold paid by the Royal Canadian Mint in 1966 was \$37.71 per oz.t. (Cdn.), down from \$37.73 in the previous year. Since 1962, the range in value for the Canadian dollar has been set at \$0.916 to \$0.934 in relation to the U.S. dollar and the corresponding Royal Canadian Mint gold price between \$37.46 and \$38.22 per oz.t. Canadian lode and placer gold mines continue to experience serious economic difficulties with costs of recovery maintaining an upward trend. Of the 48 lode gold mines operating in Canada in 1966 there were only four that did not receive assistance under the terms of the Emergency Gold Mining Assistance Act. Six lode gold mines closed in 1966 and only one new mine commenced production. In addition, Canada's largest placer gold mine ceased operations at the end of the 1966 season.

Gold produced from lode gold mines, from base metal ores and from placer mines dropped by 9.0 p.c., 3.7 p.c. and 10 p.c., respectively, below 1965 levels. The proportion of gold derived from lode gold mines declined to 81.2 p.c. of the total output, down from 82.1 p.c. in 1965, while that from base metal ores and placer mines contributed 17.6 p.c. and 1.3 p.c., respectively, compared with 16.7 p.c. and 1.2 p.c. in 1965. Ontario remained the principal producing province, accounting for 50.0 p.c. of the total compared with 54.0 p.c. in 1965; Quebec's share increased to 28.2 p.c. from 25.1 p.c. and the proportions from the Northwest Territories and British Columbia were relatively unchanged at 12.8 p.c. and 3.6 p.c., respectively.

In Ontario, production declined 14.7 p.c. to 1,661,000 oz.t. from 1,946,000 oz.t. in 1965; 25 lode gold mines operated during the year compared with 31 in 1965. In addition, Lake Shore Mines, Limited continued to operate its mill at Kirkland Lake on the re-treatment of old tailings and Upper Beaver Mines Limited had increased gold output from its gold-copper mine in the same area. Four mines ceased operations in 1966: McKenzie Red Lake Gold Mines Limited at Red Lake, Pickle Crow Gold Mines Limited at Pickle Crow, Porcupine Paymaster Limited near Timmins and Stairs Exploration and Mining Company Limited, a small operation near Matachewan. Gold recovered as a by-product from base metal ores was about 3.7 p.c. of the provincial total.

Quebec production increased 3.3 p.c. to 935,500 oz.t. from 905,400 oz.t. in 1965. Lode gold output increased by 13.2 p.c. mainly due to Camflo Mines Limited near Malartic and Wasamac Mines Limited at Arntfield, both of which completed their first full year of production, and to Chimo Gold Mines Limited, a new producer in Vauquelin Township. Twelve gold mines operated in 1966 although two of these—Norlartic Mines Limited near Malartic and Peel-Elder Limited near Noranda—closed during the year. Gold recovered as a by-product from base metal ores represented about 37.4 p.c. of the provincial total compared with nearly 42 p.c. in 1965.

In the Northwest Territories estimated production all from lode gold mines was 124,000 oz.t. compared with 452,500 oz.t. in 1965. The decline of 6.3 p.c. was mainly due to a drop of about 10 p.c. in output by Giant Yellowknife Mines Limited, Canada's largest lode gold mine.

British Columbia production in 1966 moved up to 120,700 oz.t. from 117,800 oz.t. in 1965. Output from the larger of British Columbia's two lode gold mines—Bralorne Pioneer Mines Limited—declined about 20 p.c. but that from The Cariboo Gold Quartz Mining Company Limited improved by nearly 10 p.c. The reduction in lode gold output was offset by an increase of about 23 p.c. in gold recovered from base metal ores.

Combined production for Manitoba and Saskatchewan was 5.8 p.c. lower at 107,200 oz.t. compared with 113,900 oz.t. in 1965. Most of it is derived from base metal ores. Production declined at San Antonio Gold Mines Limited, the only lode gold mine in the Prairie Provinces.

In the Yukon Territory, where placer operations account for almost all of the gold production, output was 43,500 oz.t. compared with 45,000 oz.t. in 1965. Placer gold production in future years will be greatly reduced with the termination of operations near

Dawson at the end of the 1966 season by the Yukon Consolidated Gold Corporation Limited. This operator previously produced 75 p.c. to 80 p.c. of the Territory's annual placer gold. The LaForma mine of Discovery Mines Limited near Carmacks, which was the only lode gold mine in the territory, ceased operations in March 1966.

In Newfoundland and New Brunswick, all gold was recovered as a by-product of base metal production.

14.—Producers' Shipments of Gold, by Province, and Total Value, 1957-66

NOTE.—Figures from 1862 are given in the corresponding table of previous Year Books beginning with the 1916-17 edition.

Year	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan
	oz.t.	oz.t.	oz.t.	oz.t.	oz.t.	oz.t.	oz.t.
1957.....	9,755	45	240	1,006,895	2,578,206	120,008	75,236
1958.....	13,381	131	52	1,044,846	2,716,514	87,356	86,590
1959.....	13,411	—	—	999,388	2,683,449	51,186	78,588
1960.....	13,515	3	—	1,035,914	2,732,673	52,762	84,775
1961.....	14,429	—	—	1,054,029	2,637,720	57,747	70,784
1962.....	13,966	—	553	993,560	2,421,249	68,259	66,034
1963.....	12,318	—	1,128	917,229	2,338,854	53,084	64,813
1964.....	16,717	63	1,623	934,769	2,155,370	69,986	46,185
1965.....	23,657	—	1,659	905,380	1,946,003	67,685	46,173
1966.....	25,667	20	1,953	935,459	1,660,750	64,565	42,678

	Alberta	British Columbia	Yukon Territory	Northwest Territories	Canada	
					Quantity	Value
	oz.t.	oz.t.	oz.t.	oz.t.	oz.t.	\$
1957.....	416	229,113	73,962	340,018	4,433,894	148,757,143
1958.....	282	210,612	67,745	343,838	4,571,347	155,334,370
1959.....	200	184,312	66,960	405,922	4,483,416	150,508,275
1960.....	191	212,859	78,115	418,104	4,628,911	157,151,527
1961.....	171	164,467	66,878	407,474	4,473,699	158,637,366
1962.....	186	159,492	54,805	400,292	4,178,396	156,313,794
1963.....	132	159,473	55,211	400,885	4,003,127	151,118,045
1964.....	59	139,959	57,844	412,879	3,835,454	144,788,388
1965.....	200	117,764	45,031	452,479	3,606,031	136,051,942
1966.....	182	120,705	43,466	424,029	3,319,474	125,177,364

Uranium.—The uranium industry is on the threshold of a new period of development based on the rapidly expanding demand for long-term supplies of nuclear fuel for the generation of electricity by the world's industrial nations. The large requirement for uranium is expected to be in the period approaching 1980 but, because of the time it takes to develop mines of up to 10 years, the industry is gaining momentum at the present time particularly in exploration. The uranium demand in non-communist countries is expected to be about 65,000 tons a year in the 1980s, much higher than the 19,000 tons produced by all countries in 1966. Half of this went to government stockpiles, which is not part of the normal demand growth for nuclear generation of electricity.

Canadian Government policy with respect to the export of uranium is that Canadian uranium must be used for peaceful purposes and agreements to this effect must be negotiated between Canada and the purchasing country before export permits are granted. Sales of small quantities of uranium, up to a maximum of 2,500 pounds in total for a country, may be made to nations not holding agreements. The Atomic Energy Board, with the cooperation of the Department of Trade and Commerce and the Department of National Revenue, controls the export and import of uranium and special equipment related to the uranium and atomic energy industries.

The year 1966 was significant for the industry because the first large contracts for the sale of uranium for peaceful purposes were consummated. Rio Algom Mines Limited negotiated a contract with the United Kingdom Atomic Energy Authority for a minimum of 8,000 tons of U_3O_8 with an option to increase the amount to 11,500 tons. Deliveries are to begin in late 1971 and to continue at a rate of 1,000 tons annually. In December, Ontario Hydro completed negotiations with Rio Algom and Eldorado Mining and Refining Limited for the purchase of 6,500 tons of uranium, deliveries to begin in 1970. Rio Algom will supply more than 90 p.c. of the requirement and Eldorado the remainder of the contract as well as refining services. Canadian uranium producers expect to negotiate other long-term contracts. Delegations from West Germany, Japan and Mexico visited Canada during 1966 relative to uranium. Of significance is an agreement between Denison Mines Limited and Mitsui and Company Ltd., a major Japanese trading company, whereby Mitsui will purchase uranium only from Denison for sales to the Japanese industry and Denison will sell uranium to Japan only through Mitsui.

Production in 1966 totalled 3,900 tons of U_3O_8 . Final deliveries were made at the end of 1966 to the United States under the contracts that had been negotiated in the 1950s. Total shipments involving these contracts were valued at over \$1,500,000,000. At the end of the year, about 5,700 tons of U_3O_8 remained to be delivered to the United Kingdom Atomic Energy Authority. This contract is not expected to be completed until 1971.

At the end of 1965, Canada's reserves of uranium were about 210,000 tons of U_3O_8 recoverable at less than \$10 a pound. These are more than adequate to meet the firm contracts and the capacity of present plants for the foreseeable future. However, if the large future demand for Canadian uranium is to be met, new reserves will be required. In 1966, the industry was marked by a movement of mining concerns into uranium ventures. Much of the activity consisted of land acquisition but several companies began intensive exploration programs. The most promising new area is at Agnew Lake, Ont., about 45 miles east of Elliot Lake, where Kerr Addison Mines Limited continued a diamond drilling program. Results were encouraging and several other companies are interested in the region.

15.—Quantity and Value of Producers' Shipments of Uranium (U_3O_8), by Province, 1957-66

Year	Ontario		Saskatchewan		Northwest Territories		Canada	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	lb.	\$	lb.	\$	lb.	\$	lb.	\$
1957.....	7,970,598	82,940,763	4,462,552	44,561,832	838,264	8,801,769	13,271,414	136,304,364
1958.....	19,970,136	210,149,700	5,924,253	59,815,924	910,843	9,572,847	26,805,232	279,538,471
1959.....	25,492,171	268,529,993	5,372,685	54,457,321	919,333	8,155,729	31,784,189	331,143,043
1960.....	19,793,727	211,983,533	4,624,431	48,722,961	1,077,211	9,231,698	25,495,369	269,938,192
1961.....	14,970,594	151,060,610	4,310,871	44,631,014	—	—	19,281,465	195,691,624
1962.....	12,805,203	118,283,081	4,053,966	39,900,588	—	—	16,859,169	158,183,669
1963.....	12,770,421	102,951,146	3,932,645	33,957,973	—	—	16,703,066	136,909,119
1964.....	11,805,143	63,606,944	2,765,164	19,902,485	—	—	14,570,307	83,509,429
1965.....	6,825,046	47,234,892	2,060,167	15,126,485	—	—	8,885,213	62,361,377
1966.....	5,875,698	42,758,135	1,987,992	11,576,652	—	—	7,863,690	54,334,787

Silver.—Canada's mine production of silver in 1966 was 33,418,000 oz.t., about 1,146,000 oz.t. more than in 1965; the 1966 production was valued at \$46,752,000, over \$1,570,000 higher than the previous year. Declines in output in the Yukon Territory, Manitoba and Saskatchewan were more than offset by increases in other provinces. Quebec had the largest increase because of increased by-product output at several base metal

mines. Output in the Northwest Territories reached a new high because of increased production by Echo Bay Mines Ltd. at its silver-copper property near Port Radium. Although Ontario was again the leading silver-producing province, its output dropped almost 5 p.c. from 1965 mainly because of lower output in the Cobalt-Gowganda area. Base metal ores were again the principal source of Canadian output, accounting for almost 83 p.c. of production. Approximately 16 p.c. came from silver-cobalt ores mined in northern Ontario and the remainder was by-product recovery from lode and placer gold ores. Reported consumption of silver in Canada in 1966 at 21,300,000 oz.t. was almost 9,000,000 oz.t. less than in 1965. Substantially reduced requirements for coinage accounted for most of the decrease. There was no change in the composition of the coins minted in 1966 but changes were contemplated for coins to be minted in 1967.

Canadian Copper Refiners Limited at Montreal East, Que., remained Canada's largest producer of refined silver. It recovered nearly 10,100,000 oz.t. from the treatment of anode and blister copper. The silver refinery of Cominco Ltd. at Trail, B.C., was the second largest producer, recovering 6,600,000 oz.t. in the processing of lead and zinc ores and concentrates. Other producers of refined silver, all in Ontario, were Kam-Kotia Porcupine Mines Limited (Refinery Division) at Cobalt (from silver-cobalt ores and concentrates); International Nickel at Copper Cliff (from nickel-copper concentrates); Royal Canadian Mint at Ottawa (from gold bullion); and Hollinger Consolidated Gold Mines, Limited at Timmins (from gold precipitates).

The two largest company sources of silver in Canada in 1966 were the Hector-Calumet, Elsa and Keno mines in the Yukon Territory, about 200 miles north of Whitehorse, operated by United Keno Hill Mines Limited, and the Sullivan lead-zinc-silver mine at Kimberley, B.C., operated by Cominco Ltd. United Keno produced concentrates and precipitates containing 4,235,678 oz.t. of silver and Cominco Ltd. produced concentrates containing 3,190,431 oz.t. Other important producers of silver included Echo Bay Mines Ltd. near Port Radium, N.W.T.; Hudson Bay Mining and Smelting Co., Limited at Flin Flon, Man.; Noranda Mines Limited (Geco Division) at Manitouwadge, Ont.; International Nickel at Copper Cliff, Ont.; Lake Dufault Mines, Limited near Noranda, Que.; Brunswick Mining and Smelting Corporation Limited near Bathurst, N.B.; and American Smelting and Refining Company (Buchans unit) in Newfoundland. Some 5,300,000 oz.t. of silver were derived from silver-cobalt ores mined in the Cobalt-Gowganda area of northern Ontario, the largest producer being Silverfields Mining Corporation, Limited with an output of 1,521,000 oz.t.

16.—Producers' Shipments of Silver, by Province, and Total Value, 1957-66

NOTE.—Figures from 1887 are given in the corresponding table of previous Year Books beginning with the 1916-17 edition.

Year	Average Price per oz.t. (Canadian funds)	New- foundland	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
	cts.	oz.t.	oz.t.	oz.t.	oz.t.	oz.t.	oz.t.
1957.....	87.37	1,196,414	1	379,173	3,645,856	6,910,130	407,834
1958.....	86.81	1,267,078	4	51,139	3,908,361	9,815,257	320,759
1959.....	87.78	1,125,110	—	—	4,108,241	10,540,856	373,827
1960.....	88.91	1,271,126	—	—	4,115,105	11,220,823	501,637
1961.....	94.26	1,145,105	—	—	4,315,844	8,870,402	767,543
1962.....	116.50	1,181,648	724,245	178,521	4,603,019	9,383,445	847,879
1963.....	138.40	981,005	423,189	332,472	4,441,644	9,601,621	766,976
1964.....	140.00	1,089,748	544,224	1,469,192	4,564,550	9,929,858	727,642
1965.....	139.90	1,086,978	443,630	2,745,274	5,154,403	10,822,213	707,024
1966.....	139.90	1,097,425	540,663	3,108,669	5,214,146	10,900,204	547,797

16.—Producers' Shipments of Silver, by Province, and Total Value, 1957-66—concluded

Year	Saskatchewan	British Columbia	Yukon Territory	Northwest Territories	Canada ¹	
					Quantity	Value
	oz.t.	oz.t.	oz.t.	oz.t.	oz.t.	\$
1957.....	1,145,571	8,584,991	6,484,185	69,104	28,823,298	25,182,915
1958.....	1,299,077	8,013,428	6,415,560	72,779	31,163,470	27,053,007
1959.....	1,187,439	7,463,285	7,054,632	70,560	31,923,969	28,022,860
1960.....	1,163,845	8,447,440	7,217,361	79,473	34,016,829	30,244,363
1961.....	876,450	8,391,640	6,937,086	77,890	31,381,977	29,580,651
1962.....	762,215	6,186,937	6,482,244	72,802	30,422,972	35,442,761
1963.....	746,683	6,451,158	6,106,037	81,206	29,932,003	41,425,891
1964.....	593,320	5,280,129	5,638,712	65,223	29,902,611	41,863,655
1965.....	640,995	4,991,109	4,615,995	1,064,824	32,272,464	45,181,450
1966.....	603,358	5,548,823	4,194,580	1,662,192	33,417,874	46,751,605

¹ Includes relatively small quantities produced in Alberta.

Platinum Metals.—Canadian production of the platinum metals in 1966 was 396,100 oz.t. valued at \$32,370,000, a reduction of 67,000 oz.t. and \$3,740,000 from 1965. The decrease in output resulted from lower production of nickel. Platinum group metals—platinum, palladium, rhodium, ruthenium, iridium and osmium—are recovered in Canada as a by-product in the refining of nickel; nickel ores contain an average of 0.025 oz.t. of platinum metals per ton. When nickel matte is electrolytically refined the platinoids are precipitated in the electrolytic tanks as a sludge. The sludge is purified and sent to refineries in Britain and the United States for recovery of the platinum metals.

Half of the world's output of platinum metals is from the Soviet Union and most of the remainder is produced in the Republic of South Africa and Canada. World demand remained strong in 1966 and consumption in the non-communist countries exceeded mine production. The deficit was made up by purchases from the Soviet Union and releases from the United States stockpile. An erratic pattern of sales to the non-communist world by the Soviet Union caused a wide difference between the official platinum price of \$100 per oz.t. and dealers' prices of up to \$146 per oz.t.

Aluminum.—Canada ranks third in world aluminum production, after the United States and the Soviet Union. In the non-communist world, 1966 production of primary aluminum was 6,200,000 tons; Canada produced 907,700 tons and exported 716,000 tons. These exports represent a large proportion of all aluminum metal moving across international borders. Two companies produce primary aluminum in Canada—Canadian British Aluminium Company Limited operates a smelter at Baie Comeau, Que., and Aluminum Company of Canada Limited (Alcan) operates smelters at Arvida, Alma, Shawinigan and Beauharnois in Quebec and at Kitimat in British Columbia. Effective capacity at Canadian smelters will be an estimated 1,085,000 tons by the end of 1967. As all bauxite and alumina used by the aluminum smelters must be imported, mainly from the Caribbean area, metal production is classed with manufactures and not with smelter production of ores and concentrates of domestic origin. The export price of primary aluminum was 24.5 cents a pound (U.S.) in 1966, unchanged since November 1964. The Canadian price was 26.0 cents a pound throughout 1966 but was increased to 26.5 cents in January 1967.

Magnesium.—Dominion Magnesium Limited, with mine and smelter at Haley, Ont., is the only producer in Canada. The smelter has an annual magnesium capacity of 11,500 tons. Production declined to 6,723 tons from 10,108 tons in 1965 because of a strike, and exports declined to \$3,450,000 from \$4,450,000. Imports increased from

1,600 tons in 1965 to 3,000 tons in 1966. Canadian consumption of primary magnesium, including imports, was 5,200 tons in 1966. World production is in the order of 176,000 tons a year.

Selenium and Tellurium.—Selenium production in 1966 at 575,500 pounds valued at \$2,791,000 was 12 p.c. higher than in 1965; tellurium output at 72,200 pounds valued at \$469,600 was 3.5 p.c. higher. These metals are recovered from the anode muds resulting from electrolytic refining of copper at the plants of Canadian Copper Refiners Limited at Montreal East, Que., and International Nickel at Copper Cliff, Ont.

Titanium.—Ilmenite, an iron-titanium oxide, is mined in the Allard Lake and St. Urbain areas of Quebec. Ilmenite mined by Quebec Iron and Titanium Corporation (QIT) in the Allard Lake area is smelted by QIT in electric-arc furnaces at Sorel, Que., to produce high-titania slag and a range of specialty pig irons. The titania slag is sold to producers of titanium-based pigments in Canada, the United States, Britain and other countries. Production of titania slag was reduced by a strike in 1966, the value being \$20,505,000 compared with the record \$22,425,000 in 1965.

Atlas Titanium, a Division of Rio Algom Mines Limited, Welland, Ont., continued to carry out second-stage melting of imported titanium ingots and increased, by 30 p.c. from 1965, its processing of the metal. Atlas makes mill products and finished electroplating baskets for sale in domestic and export markets.

Vanadium.—Vanadium is recovered in Canada from imported Venezuelan crude oil in the form of vanadium pentoxide (V_2O_5) by Canadian Petrofina Limited at its refinery near Pointe-aux-Trembles, Que. The capacity of the plant is about 1,000 pounds of V_2O_5 a day. Great Canadian Oil Sands Limited will start oil recovery from the Athabasca tar sands near Fort McMurray in northern Alberta in September 1967. The operation will produce petroleum coke, some of the ash from which is reported to contain about 4 p.c. vanadium. The recovery of this vanadium is planned.

Cobalt.—Cobalt production in 1966 was 3,511,000 pounds valued at \$7,108,000 compared with 3,648,000 pounds valued at \$7,529,000 in 1965. Cobalt is recovered as a by-product of the smelting and refining of nickel-copper ores of Sudbury, Ont., from nickel ores of Thompson, Man., and from silver ores of Cobalt, Ont. International Nickel recovers cobalt from its refinery operations at Port Colborne, Ont., Thompson, Man. and Clydach, Wales. Falconbridge Nickel produces electrolytic cobalt from the refining of nickel-copper matte shipped to its refinery at Kristiansand, Norway. Sherritt Gordon recovers by-product cobalt at its nickel refinery at Fort Saskatchewan, Alta. Cobalt Refinery Division of Kam-Kotia Mines Limited produces cobalt oxide and speiss as by-products of smelting and refining complex silver-cobalt concentrates from mines in the Cobalt-Gowganda area of Ontario.

Columbium.—Columbium production of St. Lawrence Columbium and Meta Corporation, the only Canadian producer, was 2,638,000 pounds of columbium pentoxide (Cb_2O_5) in pyrochlore concentrates valued at \$3,182,000. The mine is near the town of Oka, 20 miles west of Montreal. Quebec Columbium Limited and Columbium Minor Products Limited also own large pyrochlore deposits in the Oka area. Masterloy Products Limited, near Ottawa, is the only Canadian manufacturer of ferrocolumbium, which is sold in Canada and the United States. Consolidated Morrison Exploration Limited and associated companies hold exploration concessions in the James Bay Lowlands area of Ontario, south of Moosonee, on which large tonnages of columbium-bearing material have been discovered. Early estimates indicated 40,000 tons or more per vertical foot averaging 0.52 p.c. columbium pentoxide.

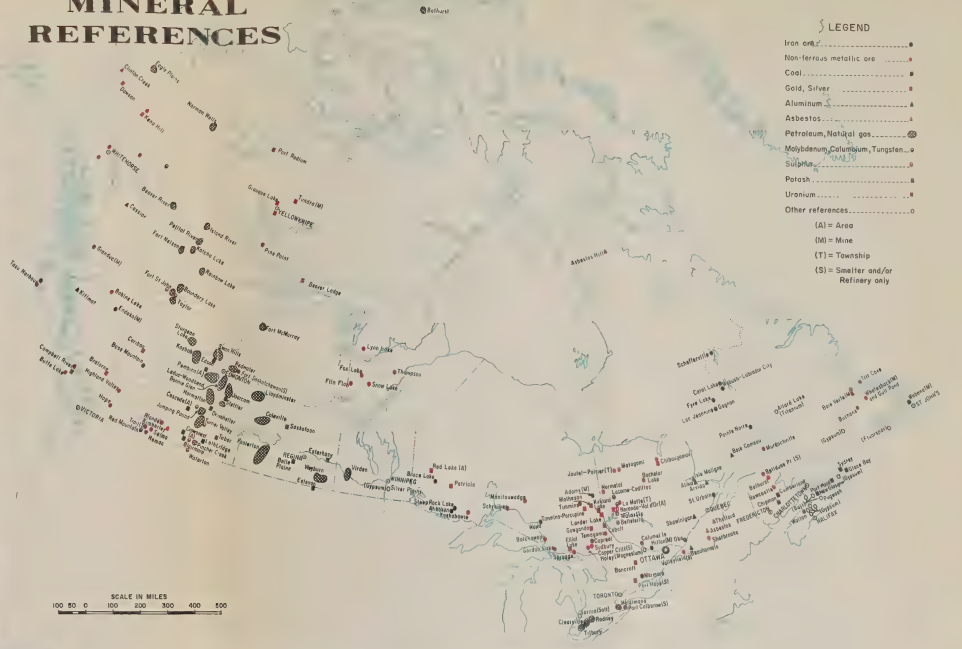


Putting the final touches to the furnaces in a new iron ore pelletizing plant at Attikokan, west of Port Arthur, Ont. Following the large expansion programs that have taken place in iron ore production in recent years, there is now emerging a trend toward further pelletization of existing output, sharply increasing the pellet-to-ore ratio.



The 5,000-ton-a-day lead-zinc concentrator at Pine Point on the south shore of Great Slave Lake, N.W.T. The mill, which had its first full year of production in 1966, is already being expanded to a capacity of 8,000 tons a day.

MINERAL REFERENCES



Canada's potash industry in southern Saskatchewan continues to grow rapidly. Annual capacity of the four mines operating in 1967 was 4,900,000 tons and, with the completion of six additional mines now under construction, Canada will become, in the early 1970s, the world's largest producer of this mineral.

The tar sands processing plant at Fort McMurray in northeastern Alberta began operations in the fall of 1967, producing 45,000 bbl. of oil, 300 tons of elemental sulphur and 2,800 tons of coke daily from 110,000 tons of sand. Locked in the Athabasca tar sands is an estimated 600,000,000,000 bbl. of oil, an amount representing more than the combined reserves of all the oil fields in the world.



The Mining Research Centre of the Department of Energy, Mines and Resources concentrates particularly on rock mechanics. At the Elliot Lake laboratories, a borehole instrument is under development for use in studying stresses in rocks in areas being mined.

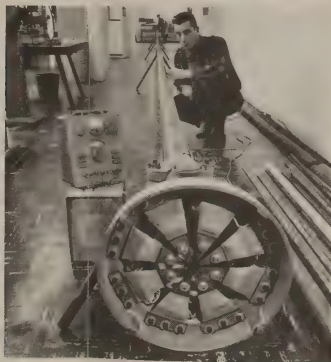


Photo Credits—
George Hunter, Toronto
Department of Energy, Mines and Resources.

Molybdenum.—Production of molybdenum in Canada in 1966 increased for the seventh consecutive year and reached a high of 20,596,000 pounds valued at \$34,671,000 compared with 9,557,000 pounds valued at \$16,731,000 in 1965. Canada's position in 1966 was second only to the United States among world producers.

Canadian production in 1966 came from eight mines, four in British Columbia and four in Quebec. The producers in British Columbia, accounting for 80 p.c. of the total Canadian output, were Endako Mines Ltd. at Endako; Brynnor Mines Limited (Boss Mountain Division), a subsidiary of Noranda Mines Limited; Red Mountain Mines Limited near Rossland; and Bethlehem Copper Corporation in the Highland Valley. The producers in Quebec were Molybdenite Corporation of Canada Limited at Lacorne; Preissac Molybdenite Mines Limited and Anglo-American Molybdenite Mining Corporation, both in Preissac Township north of Cadillac; and Gaspé Copper Mines Limited, a subsidiary of Noranda Mines, at Murdochville. Red Mountain Mines came into production in mid-1966. British Columbia Molybdenum Limited, a subsidiary of Kennecott Copper Corporation, was scheduled for operation in October of 1967, thereby bringing the number of domestic producers to nine with seven of them producing molybdenum as a primary product and two—Bethlehem and Gaspé—recovering molybdenum as a by-product of copper operations.

Endako Mines in late 1966 was milling over 16,000 tons of ore a day grading about 0.24 p.c. MoS_2 ; expanded facilities will bring its concentrator capacity to 22,000 tons a day by early 1968. The company expects to maintain a minimum production of 12,000,000 pounds of molybdenum a year.

Subsection 2.—Industrial Minerals

The total value of industrial minerals produced in Canada in 1966 was a record \$837,497,000. Producers' shipments of non-metallic minerals were valued at \$363,388,000, and of clay products and other structural materials of mineral origin, at \$474,109,000. New production records were established for asbestos, barite, nepheline syenite, potash, sulphur, cement, stone, and sand and gravel; however, production of several minerals, notably gypsum, lime, salt, silica and sodium sulphate, was slightly below 1965 levels. Developments in a number of industrial minerals during 1966 are reviewed below.

Asbestos.—Asbestos production continued its generally upward trend in 1966 when output reached a new high at 1,489,000 tons valued at \$163,655,000, an increase of 7.3 p.c. in output and 11.9 p.c. in value over 1965. Quebec annually accounts for about 90 p.c. of the domestic production and British Columbia, Newfoundland and Ontario for the remainder. Most of the Canadian production is exported, mainly as milled fibre and shorts, to the United States, West Germany, Britain, Japan and other non-communist countries. Canada now provides about 40 p.c. of the world's production of asbestos fibre.

Favourable world demand for fibre has resulted in increased exploration, development and expansion of facilities both in Canada and elsewhere. Projected production at the \$21,000,000 Clinton Creek property of Cassiar Asbestos Corporation in the Yukon Territory, beginning in 1968 at 60,000 tons of fibre per annum, is expected to increase to 80,000 tons by 1970; asbestos-cement grades of fibre will be the main product. Canadian Johns-Manville Co. Ltd. plans to bring into production in 1968 its deposit in Reeves Township, 40 miles southwest of Timmins, Ont., which will have a capacity of 25,000 tons of fibre a year. Production in Ontario during 1966 was derived from Hedman Mines Ltd. near Matheson, where a pilot plant was in operation providing fibre for appraisal and market development. Asbestos Corporation Ltd., in April 1967, announced the suspension of development work at Asbestos Hill in the Ungava area of northern Quebec because of a large increase in costs from the original estimate of \$66,300,000 to the present estimate of \$84,800,000. This deposit, located 40 miles south of Deception Bay, has reserves in excess of 20,000,000 tons.

17.—Quantity and Value of Producers' Shipments of Asbestos, 1957-66

NOTE.—Figures from 1896 are given in the corresponding table of previous Year Books beginning with the 1911 edition.

Year	Quantity	Value	Year	Quantity	Value
	tons	\$		tons	\$
1957.....	1,046,086	104,489,431	1962.....	1,215,814	130,281,966
1958.....	925,331	92,276,748	1963.....	1,275,530	136,956,180
1959.....	1,050,429	107,433,344	1964.....	1,419,851	145,193,443
1960.....	1,118,456	121,400,015	1965.....	1,388,212	146,188,473
1961.....	1,173,695	128,955,900	1966.....	1,489,055	163,654,863

Potash.—Potash mining is a recent development in Canada, the first output being recorded in 1962, valued at \$3,000,000. Activity in this industry, which is concentrated in Saskatchewan, has since continued at a high tempo. In 1966, production—from two shaft mines at Esterhazy and Saskatoon and from one solution mine at Belle Plaine—totalled 1,990,000 tons (K_2O), 37 p.c. more than that of 1965. The bulk of this output was exported to world markets. Production will be greatly increased when the several new mines and plants now under construction come on stream. At the close of 1966, ten shafts and six refineries were under construction, which when completed will raise productive capacity from its current level of 3,400,000 tons of product (KCl concentrate) per year to an estimated 12,000,000 tons per year. Other shafts and plants, as yet unannounced, are expected to further increase productive capacity by 1970.

World potash consumption has increased substantially during the past five years and the urgent need for fertilizer materials to increase world food supplies assures continued strong growth over the long term. However, during the next few years, potash production may exceed actual consumption as many new operations, mainly in Canada, reach production. The scale of potash operations in Canada and in the Soviet Union will be much larger than the facilities operating in the older potash-producing areas and this, together with higher quality ores, should result in low unit production costs. Over the long term, the advantages of new technology, large-scale operations, and lower-cost transportation on land and sea will place Canada in a strong competitive position for world markets and, at the same time, offer hope of relatively stable and low potash prices—the most important factor in encouraging the wider use of this commodity.

Salt.—Production of salt during 1966, at 4,492,000 tons, was maintained near the record level established the previous year. Rock salt is mined in Nova Scotia and Ontario; brine wells are operated in Nova Scotia, Ontario, Manitoba, Saskatchewan and Alberta. Ontario, with two rock salt mines and with advantageous facilities for export of both rock salt and brine, accounts for 84 p.c. of total output. Technical advances continue toward upgrading the purity of various salt products as salt remains a prime chemical raw material with many uses essential to industrial development. It is of interest to note that salt is also a by-product of the potash operations in Saskatchewan, more than one ton of salt being produced for every ton of refined potash. By 1970, when potash production is expected to approach 12,000,000 tons of product (KCl) annually, the rate of production of by-product salt will probably exceed 18,000,000 tons. However, major markets for this material are lacking; although research into utilization in road and soil stabilization programs is under way and small quantities are used for ice control during winter months, large tonnages will continue to accumulate at increasing rates as new potash mines are developed and brought into production.

18.—Producers' Shipments of Salt, by Province, and Total Value, 1957-66

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1946 edition.

Year	Nova Scotia	Ontario	Manitoba	Saskatchewan	Alberta	Canada	
						Quantity	Value
	tons	tons	tons	tons	tons	tons	\$
1957.....	122,763	1,538,805	19,372	43,684	46,935	1,771,559	13,989,703
1958.....	125,872	2,126,483	20,560	46,511	55,766	2,375,192	14,989,542
1959.....	120,225	3,036,230	23,547	48,776	61,198	3,289,976	18,034,522
1960.....	163,901	3,007,599	21,925	49,064	72,431	3,314,920	19,355,658
1961.....	225,875	2,861,705	23,103	51,964	83,880	3,246,527	19,552,006
1962.....	312,519	3,155,589	25,010	54,931	90,729	3,638,778	21,927,135
1963.....	356,902	3,187,491	24,883	56,301	96,417	3,721,994	22,316,565
1964.....	448,808	3,335,683	27,744	74,952	101,411	3,988,598	23,203,742
1965.....	459,114	3,900,484	29,834	78,958	115,706	4,584,096	23,985,844
1966.....	474,981	3,782,191	27,069	84,979	122,814	4,492,034	23,846,188

Sulphur.—World demand for sulphur continued at a high level in 1966. Consumption, estimated at 32,000,000 tons, exceeded production by perhaps 1,000,000 to 1,500,000 tons, the deficit being supplied from stockpiles. This heavy rate of consumption, estimated to be increasing at the rate of 6 p.c. annually, is largely attributable to the rapid expansion of the fertilizer industry which uses vast amounts of sulphur, as sulphuric acid, in the production of phosphate fertilizer. Other consuming industries—steel, paper, plastics, paints and rubber—have contributed to the rising demand.

Canada's sulphur shipments to world markets in 1966 have been estimated at 2,800,000 tons, contrasted with a production of only 2,700,000. The continued heavy demand for sulphur, attractive prices, and the depletion of stockpiles have acted as strong stimuli for the expansion of existing facilities and the construction of new plants. In Alberta, several expansions at sour gas co-product sulphur plants were announced or under way during the year. By the year-end, Canadian Superior Oil had started operations at a 325,000-ton-per-year plant at Harmattan; Petrogas Processing Ltd. was expanding its plant near Calgary to provide an additional 400,000 tons capacity; Pan American Petroleum was building a plant near East Crossfield with an announced annual capacity of 600,000 tons; Shell Canada was increasing the capacity of its Jumping Pound plant by 150,000 tons; and in 1967, Great Canadian Oil-Sands Ltd. was to begin extracting co-product sulphur from Athabasca oil sands in northern Alberta where annual output is expected to reach 100,000 tons. Expansions of other than sour gas sulphur facilities were taking place elsewhere in Canada. Canadian Industries Limited was expanding sulphuric acid facilities at Sudbury and will consume greater quantities of International Nickel's smelter gas; Brunswick Mining and Smelting was recovering smelter gas for sulphuric acid production at Belledune, N.B., and plans to utilize by-product pyrite for the production of elemental sulphur, sulphuric acid and iron; Hudson Bay Mining and Smelting will ship pyrite to Regina for iron ore and sulphuric acid production; and the smelter gas and/or pyrite from Texas Gulf Sulphur's Kidd Creek base metal mine in northern Ontario will be utilized for the sulphur content. These projects are expected to be completed and on stream by the end of 1968. With their completion, Canada's total annual productive capacity of sulphur and equivalent sulphur will be well in excess of 4,000,000 tons.

19.—Quantity and Value of Sulphur Produced from Smelter Gases and in Pyrite and Pyrrhotite Shipments, and of Elemental Sulphur Sales, 1957-66

Year	Sulphur in Smelter Gases		Producers' Shipments Pyrite and Pyrrhotite			Sales of Elemental Sulphur ¹	
	Quantity	Value	Gross Weight	Sulphur Content	Value	Quantity	Value
	tons	\$	tons	tons	\$	tons	\$
1957.....	235,123 ²	2,322,067	1,166,416	515,096	4,808,228	93,338	..
1958.....	241,055 ²	2,361,252	1,191,731	512,427	4,248,668	94,377	1,872,832
1959.....	277,030 ²	2,716,416	1,099,564	..	3,433,095	145,656	2,620,787
1960.....	289,620 ²	2,854,623	1,032,288	..	3,316,378	274,359	4,298,906
1961.....	277,056 ²	2,708,110	517,258 ²	..	1,830,566	394,762	7,287,881
1962.....	292,728 ²	3,089,537	517,308 ²	..	1,879,584	695,098	9,286,999
1963.....	353,243 ²	3,488,181	476,438 ²	..	1,643,629	1,249,887	13,380,182
1964.....	443,448 ²	4,261,912	351,850 ²	..	1,126,167	1,788,165	18,637,597
1965.....	444,758 ²	4,317,362	382,177 ²	..	1,285,252	2,068,394	26,394,595
1966.....	500,338 ²	6,050,750	326,954 ²	..	1,139,141	2,041,528	40,253,685

¹ Recovered from sour natural gas and nickel sulphide ores. zinc sulphide concentrates at Arvida and Port Maitland. iron residue or sinter.

² Includes sulphur in acid made from roasting. * Excludes pyrite and pyrrhotite used to produce

Gypsum.—Crude gypsum output in Canada reached an all-time high in 1964 when it amounted to 6,361,000 tons valued at \$11,524,000. In 1965 production declined to 6,306,000 tons and in 1966 to 5,976,000 tons, largely as a result of a cutback in building construction in Canada and, particularly, in the United States. Construction in the United States has a comparatively greater effect on gypsum production in Canada because 75 p.c. of Canada's production is exported to that country, principally from quarries in Nova Scotia. Nova Scotia annually accounts for 75 p.c. to 80 p.c. of the total production, the other producing provinces being Ontario, Newfoundland, British Columbia, Manitoba and New Brunswick.

A development of interest during the year was the decision of British American Construction and Materials Limited, a Winnipeg firm, to enter the gypsum products field. This company has under construction a fully automated gypsum wallboard plant in Saskatchewan and is developing a mine near Amaranth in Manitoba as a source of crude gypsum. A 15-degree incline shaft is being sunk to the gypsum which is 125 feet below surface in this area. The mine, to be operated on a room-and-pillar system, will have an initial capacity of 400 tons per shift.

20.—Producers' Shipments of Gypsum, by Province, and Total Value, 1957-66

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1943-44 edition.

Year	Newfoundland	Nova Scotia	New Brunswick	Ontario	Manitoba	British Columbia	Canada	
							Quantity	Value
	tons	tons	tons	tons	tons	tons	tons	\$
1957.....	29,465	3,842,027	93,249	379,621	183,708	49,422	4,577,492	7,745,10
1958.....	36,307	3,149,719	105,749	425,733	176,123	70,498	3,964,129	5,189,15
1959.....	37,720	5,036,411	98,250	412,100	200,139	94,010	5,878,630	8,393,70
1960.....	34,346	4,490,427	90,892	355,603	122,063	112,400	5,205,731	9,498,71
1961.....	40,699	4,113,188	85,330	425,287	122,233	153,300	4,940,037	7,750,74
1962.....	83,992	4,451,072	91,835	435,140	122,870	147,900	5,332,809	9,349,77
1963.....	232,259	4,910,536	80,544	439,206	131,767	160,954	5,955,266	11,237,98
1964.....	331,990	5,097,232	104,100	517,239	121,555	188,569	6,360,685	11,523,98
1965.....	442,655	4,862,485	101,012	531,918	159,854	207,705	6,305,629	12,533,38
1966.....	459,685	4,502,836	108,207	565,185	134,225	206,026	5,976,164	12,312,22

Sodium Sulphate.—Production of sodium sulphate (salt cake) in Canada increased more than 59,800 tons in 1966 to establish a new high of 405,300 tons, all derived from alkali lake deposits in the southern part of Saskatchewan. Steadily rising demand for kraft pulp, the major use for sodium sulphate, has stimulated expansion of productive facilities in Saskatchewan. At the end of 1966, two new plants were under construction for operation in 1967—one at Fox Valley to be operated by the Sodium Sulphate Division of Saskatchewan Minerals, which will have a capacity of 150,000 tons a year, and the other at Alsask to be operated by Sodium Sulphate (Saskatchewan) Ltd., having a capacity of 50,000 tons a year. A third plant having a capacity of 100,000 tons, to be operated by Tombill Mines Ltd., was planned for construction during 1967 at Cabri, 40 miles north of Swift Current.

Silica.—The production of silica (quartz) in 1966, at 2,300,000 tons, was 6 p.c. lower than in 1965 but the output value, at \$5,514,000, was 8 p.c. higher as a result of increased output of higher-value silica sand. Metallurgy flux accounts for 70 p.c. of the total production of silica; the remainder consists of lump silica for use in silicon and ferro-silicon manufacture and in the production of elemental phosphorus (15 p.c.), and silica sand for glass manufacture, silicon carbide production, foundry use and for other purposes (15 p.c.).

Interest in silica, in particular silica sand, continued at a high level during 1966. Several companies were actively investigating the feasibility of producing sand from silica deposits in Quebec and Ontario. Canada's two producers of silica sand—Industrial Minerals of Canada Limited, operating a sandstone deposit at St. Canut des Deux Montagnes and a friable quartzite deposit at St. Donat de Montcalm in Quebec, and The Winnipeg Supply and Fuel Company, Limited, operating a loosely bonded sandstone deposit on Black Island in Lake Winnipeg—together supply about one third of the domestic market for silica sand. The remainder is supplied by imports from the United States, chiefly into Ontario, Quebec and British Columbia, for use by the glass industries and also for use in steel and iron foundries, in artificial abrasives manufacture, for silicate chemicals and for other purposes. Current consumption of silica sand in Canada is in the order of 1,000,000 tons a year.

Structural Materials

Total construction in Canada in 1966 was valued at a record \$11,200,000,000, an increase of more than 13.5 p.c. over 1965. The estimated value of the 1966 production of structural materials (non-metallic mineral) was \$474,109,000 which represents nearly 12 p.c. of the total value of mineral production for that year.

In addition to normal growth of construction work, 1966 was a year of considerable construction activity in preparation for Canada's Centennial celebrations. To support the expanding building activities, construction materials were required in far greater quantities than ever before. Expo 67 with its numerous structures, road development in the Montreal area, new bridges, viaducts and tunnels, all required increased amounts of construction materials, particularly concrete. Of importance also was the development of the Trans-Canada Highway system with its Louis Hippolyte Lafontaine tunnel under the St. Lawrence River at Montreal; completion of the 200-ft.-high Manicouagan-5, multiple-arch dam in northern Quebec; work on hydro-electric power developments in British Columbia, Saskatchewan, Manitoba, Ontario and New Brunswick; construction of the nuclear power station at Pickering, Ont., in which high-density ilmenite concrete was used for biological shielding; work on the Prince Edward Island causeway; and numerous high-rise buildings in all the major cities of Canada.

Cement.—The volume of cement produced in Canada in 1966 amounted to nearly 8,931,000 tons, 6.5 p.c. above that of 1965. Two new cement plants started producing in Quebec—a two-kiln operation of 2,500,000 barrels annual capacity operated by the Ciment Indépendent Ltée at Joliette and a 3,000,000-barrel-capacity dry-process plant operated by Ciments Lafarge Québec Ltée of St. Constant. These new plants, and the addition of a kiln in the existing plant in New Brunswick, raised the annual rated capacity of the Canadian cement industry to 73,500,000 barrels, an increase of about 10 p.c. over 1965. Plant expansions scheduled for completion in 1967 include a 5,000,000-barrel-capacity dry-process kiln in the Clarkson, Ont., plant of the St. Lawrence Cement Company and second kilns at the Lulu Island plant of Lafarge Cement of North America Ltd. and at the Bamberton plant of the Ocean Cement Limited in British Columbia. These expansions are expected to increase the total annual capacity of the cement industry by 8,700,000 barrels in 1967. Construction of a new 2,000,000-barrel-capacity cement plant has been started by St. Mary's Cement Company at Bowmanville, Ont., to come on stream early in 1968.

21.—Producers' Shipments and Value, Imports, Exports and Apparent Consumption of Cement, 1957-66

NOTE.—Figures from 1910 are given in the corresponding table of previous Year Books beginning with the 1939 edition.

Year	Shipments (sold or used)		Imports ¹	Exports	Apparent Consumption ²
	tons	\$	tons	tons	tons
1957.....	6,049,098	93,167,477	92,380	338,316	5,803,162
1958.....	6,153,421	96,414,142	41,550	141,250	6,053,721
1959.....	6,284,486	95,147,798	29,256	303,126	6,010,616
1960.....	5,787,225	93,261,473	22,478	181,117	5,628,586
1961.....	6,205,948	103,923,644	1,381	249,377	5,957,952
1962.....	6,878,729	113,233,726	2,973	219,164	6,662,538
1963.....	7,013,662	118,614,929	160	272,803	6,741,019
1964.....	7,847,384	130,704,220	250	297,669	7,549,965
1965.....	8,427,702	142,523,169	15,577 ³	334,887	8,108,392
1966.....	8,930,552	156,300,622	⁴	407,395	8,523,000

¹ Standard portland cement, other than white.

² Shipments plus imports less exports.

³ Includes imported clinker.

⁴ Imports are assumed to be relatively small.

Sand and Gravel.—Numerous deposits of sand and gravel are exploited annually to obtain materials for use in road building, in dam construction, in concrete for building and engineering, and for fill and riprap requirements. The fine sand sizes have many specific uses such as in mortar and plaster. Sand and gravel are low dollar value commodities that must be produced efficiently in highly competitive local markets. In 1966 production increased by nearly 6 p.c. in volume over 1965 and by 13 p.c. in value. The greater value per ton was probably due to increasing labour and equipment costs and to the need for a better quality product. Production of sand and gravel in Ontario, the largest producer, increased by 6.3 p.c. to 94,124,000 tons in 1966. Quebec, the second largest producer, increased its output slightly from 45,101,000 tons in 1965 to 45,877,000 tons in 1966. Increased productivity was also recorded in Nova Scotia, New Brunswick and British Columbia, compared with 1965.

22.—Producers' Shipments of Sand and Gravel, by Province, and Total Value, 1957-66

Year	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	tons	tons	tons	tons	tons	tons
1957.....	2,796,273	..	1,933,070	7,342,928	40,913,961	66,129,158
1958.....	4,062,985	..	2,333,792	4,015,976	40,507,787	67,469,064
1959.....	4,825,724	5,244,968	8,032,122	5,093,496	42,449,734	73,981,703
1960.....	3,912,533	474,184	8,717,693	6,184,924	46,255,963	77,660,833
1961.....	3,383,724	544,497	5,574,377	5,014,234	44,126,199	70,208,199
1962.....	4,250,942	531,196	4,375,842	5,128,365	44,000,000	76,600,813
1963.....	4,640,993	629,475	6,633,581	4,417,611	42,375,911	80,259,750
1964.....	4,657,737	608,923	6,562,341	4,699,626	44,500,000	76,917,396
1965.....	4,258,675	412,064	6,638,138	4,569,025	45,101,021	88,564,687
1966.....	3,599,421	4,989,997	8,109,366	5,367,393	45,876,782	94,123,982
	Manitoba	Saskatchewan	Alberta	British Columbia	Canada	
	tons	tons	tons	tons	Quantity tons	Value \$
1957.....	6,647,280	6,565,563	11,801,422	15,699,857	159,829,512	91,939,354
1958.....	9,997,546	5,380,151	13,226,668	13,216,976	160,210,945	96,282,363
1959.....	9,261,553	5,898,136	13,271,695	17,064,615	185,123,746	104,651,461
1960.....	10,860,566	8,952,539	13,385,970	15,669,293	192,074,498	111,163,886
1961.....	7,402,385	7,626,197	12,591,944	14,279,191	170,750,947	104,654,132
1962.....	9,692,025	5,317,336	13,469,848	17,879,395	181,245,762	118,603,283
1963.....	9,653,471	7,368,017	16,139,744	17,451,950	189,570,503	123,854,254
1964.....	9,871,883	9,266,648	16,777,687	19,929,117	193,791,358	125,232,132
1965.....	10,462,840	8,808,104	14,377,337	22,068,370	205,260,264	133,819,824
1966.....	9,675,796	8,314,360	12,886,213	24,295,400	217,238,710	151,525,102

Stone.—Stone quarrying and stone products are the two main divisions of the stone industry, which had an output valued at almost \$105,000,000 in 1966. Stone quarrying comprises the production of rough blocks and crushed materials from ledgerock deposits and intrusive and extrusive igneous deposits. Dimension stone products, including dressed building, ornamental and monumental stones, flagstone, curbstone and paving block, account for approximately 7 p.c. of the total value of stone production. Crushed stone products, consisting of materials used for concrete aggregate, railway ballast, road metal, rubble and riprap, terrazzo, stucco and artificial stone, etc., account for about 78 p.c. of the total value. The remaining 15 p.c. is attributable to materials used in the chemical and allied industries.

23.—Producers' Shipments of Stone,¹ by Province, and Total Value, 1957-66

Year	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec
	tons	tons	tons	tons	tons
1957.....	348,373	..	434,726	1,285,811	16,053,665
1958.....	282,439	..	435,047	2,100,687	16,963,511
1959.....	352,231	1,700,000	1,393,668	2,119,136	20,437,243
1960.....	380,843	750,000	914,937	1,883,867	20,394,509
1961.....	322,820	225,000	1,021,880	2,957,886	22,648,010
1962.....	227,707	225,000	548,834	2,950,906	24,173,016
1963.....	382,260	225,000	457,525	4,416,799	30,003,825
1964.....	285,357	350,000	504,434	3,058,061	37,805,163
1965.....	174,985	225,306	429,078	2,139,517	44,159,242
1966.....	153,000	200,000	605,458	3,544,301	48,964,155

¹ Excludes limestone used to make lime or cement.

23.—Producers' Shipments of Stone,¹ by Province, and Total Value, 1957-66—concluded

Year	Ontario	Manitoba	Alberta	British Columbia	Canada	
					Quantity	Value
	tons	tons	tons	tons	tons	\$
1957.....	17,390,438	454,972	80,565	4,233,531	40,282,081	59,197,662
1958.....	15,756,560	540,703	91,882	1,985,818	38,156,647	55,582,929
1959.....	17,288,796	526,696	528,961	2,092,804	46,439,535	60,958,784
1960.....	17,938,583	673,598	167,201	2,255,911	45,359,449	60,640,621
1961.....	18,361,843	594,921	96,753	2,709,691	48,938,804	66,567,668
1962.....	18,797,648	943,765	105,695	2,580,914	50,553,485	68,866,358
1963.....	20,402,614	3,693,144	138,894	2,935,268	62,655,329	79,883,419
1964.....	23,845,993	1,035,248	129,364	2,780,738	69,794,358	86,882,683
1965.....	24,659,053	970,536	167,782	3,832,606	76,758,105	94,847,021
1966.....	25,702,843	2,022,876	144,433	3,537,321	84,874,387	104,987,366

¹ Excludes limestone used to make lime or cement.

Clay Products.—Common clays and shales occur in most regions of Canada and are the principal raw materials used for brick and tile manufacture. Deposits of high-quality argillaceous materials used for such products as papers, refractories, high-quality white-ware, and stoneware products are relatively scarce in Canada. Consequently, china clay (kaolin), fire clay, ball clay and stoneware clay are mostly imported. The value of production of clay products from domestic clays was a record \$42,956,000 in 1966.

During the past 20 years plant efficiency has increased enormously and automation has become imperative for the economical production of good-quality products. Thus, the new facilities established are large modern plants and many small, seasonal and inefficient operations have been discontinued. Extension of plant facilities and installation of new kilns continued during 1966: construction of a new tunnel kiln for firing facing brick at the Chipman, N.B., plant was announced by L. E. Shaw Limited; construction of a \$2,000,000 facing brick plant at Mont Joli, Que., was announced by Esto Ltée; a fourth tunnel kiln for the production of facing brick was under construction by Canada Brick Ltd. at Streetsville, Ont.; the new plant of R & I Ramtite (Canada) Limited at Welland, Ont., began producing a complete range of refractory specialty products; and a \$1,000,000 addition to the Burlington, Ont., plant of Standard Refractories Ltd. will provide facilities for the manufacture of insulating fire brick.

24.—Value (Total Sales) of Producers' Shipments of Clay Products, by Province, 1957-66

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1946 edition.

Year	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$
1957.....	29,500	1,345,361	803,169	8,898,855	18,353,299
1958.....	58,282	1,509,536	629,921	10,675,463	22,786,291
1959.....	68,000	1,638,789	743,966	10,374,162	22,174,895
1960.....	83,435	1,673,618	705,366	8,093,038	20,191,325
1961.....	75,890	1,582,153	744,293	8,195,790	19,036,556
1962.....	142,000	1,712,503	822,400	7,450,131	20,146,786
1963.....	92,120	1,337,430	623,166	6,852,660	21,819,687
1964.....	99,038	1,541,117	697,974	6,839,772	23,723,512
1965.....	72,717	1,828,385	667,704	6,520,653	25,130,709
1966.....	172,700	1,525,004	618,651	6,278,308	25,799,667

24.—Value (Total Sales) of Producers' Shipments of Clay Products, by Province, 1957-66
—concluded

Year	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
	\$	\$	\$	\$	\$
1957.....	827,697	1,015,389	2,628,187	2,020,701	35,922,158
1958.....	682,943	1,158,803	2,569,170	1,639,494	41,709,903
1959.....	618,550	1,374,834	3,572,920	1,949,332	42,515,448
1960.....	813,135	1,130,332	3,551,682	1,984,607	38,226,538
1961.....	623,966	1,115,474	3,517,473	2,091,353	36,982,948
1962.....	621,275	1,354,635	3,445,687	2,121,461	37,816,878
1963.....	594,072	1,044,721	3,452,835	2,337,603	38,154,294
1964.....	519,726	1,336,383	3,787,609	2,285,454	40,830,585
1965.....	482,620	1,380,916	3,555,006	3,198,872	42,837,582
1966.....	487,172	1,395,489	3,422,614	3,256,480	42,956,085

Lightweight Aggregates.—The lightweight aggregate industry continued the expansion it has experienced over the past 10 years, reaching a value of \$7,500,000 in 1966. Markets for expanded clay and shale are established in Western Canada and in Ontario, but in Quebec producers are still struggling for a share of the concrete market. Production of expanded slag increased nearly 25 p.c. with the re-opening of the operation at Port Colborne, Ont., which had been idle since 1962. The only plant processing Canadian vermiculite, located near Perth, Ont., operated for a short period during 1966.

Subsection 3.—Petroleum and Natural Gas

Gross production of crude oil in 1966 averaged 900,000 barrels daily and output of natural gas liquids extracted from "wet" natural gas amounted to 137,000 barrels a day, compared with 1965 totals of 812,000 and 124,000 barrels, respectively. Thus, in total, gross production of liquid hydrocarbons averaged 1,037,000 barrels daily in 1966, an increase of 10.7 p.c. over the previous year. Net production of natural gas averaged 4,228,000 Mcf. a day, a 7-p.c. increase over 1965. Alberta accounted for 63 p.c. of total production, Saskatchewan for 29 p.c. and British Columbia for 5 p.c. The remainder came from fields in Manitoba, Ontario, the Northwest Territories and New Brunswick, in descending order of output. Production of propane, butane and pentanes plus averaged 135,000 barrels a day in 1966. Alberta accounted for 94 p.c. of this production, which consisted of 35,000 barrels of propane, 22,000 barrels of butane and 78,000 barrels of pentanes plus.

The total number of wells drilled in Canada during 1966 decreased to 3,336 (14,085,000 feet), a drop of 12 p.c. from the 3,780 wells (16,502,000 feet) drilled in 1965. All of the decrease was attributable to slackening in development drilling, which totalled 1,602 wells (6,950,000 feet) compared with 2,230 wells (9,535,000 feet) in 1965. This decrease in development drilling reflects the trend to wider drilling spacing units in oil field expansion rather than a slowdown in the pace of development. Exploratory drilling, amounting to 1,514 wells and 6,885,000 feet, was about the same as in the previous year.

Canadian reserves of oil and gas reached record highs in 1966. At year-end, Canada's recoverable reserves of liquid hydrocarbons amounted to 9,050,000,000 barrels, representing a 24-year supply at the 1966 rate of production and a 17-p.c. increase in reserves over the 1965 year-end total. Alberta, with a year-end total of 6,700,000,000 barrels of recoverable reserves, accounted for most of the increase. Included in the Canada total are 1,260,000,000 barrels of natural gas liquids of which 1,200,000,000 barrels are in Alberta.

The Canadian Petroleum Association in 1966 changed its basis for determining gas reserves, reporting proved remaining marketable reserves instead of proved recoverable reserves as previously. Under the new system only the reserves that can be marketed

economically are considered in the reserve total. The proved remaining marketable reserves at the end of 1966 were 43,500,000,000 Mcf., 7.7 p.c. above the 1965 figure.

25.—Quantity and Value of Producers' Shipments of Crude Petroleum, by Province, 1957-66

NOTE.—Figures from 1936 are given in the corresponding table of previous Year Books beginning with the 1948-49 edition.

Year	New Brunswick		Ontario		Manitoba		Saskatchewan	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	bbl.	\$	bbl.	\$	bbl.	\$	bbl.	\$
1957.....	19,401	27,161	623,666	2,160,000	6,089,743	15,467,947	36,861,089	79,325,064
1958.....	15,189	21,265	778,341	2,623,000	5,829,226	14,415,676	44,626,148	96,704,863
1959.....	14,479	20,271	1,001,580	3,194,000	5,056,075	11,619,872	47,442,498	97,731,546
1960.....	14,148	19,807	1,005,030	3,150,065	4,764,045	10,690,384	51,908,428	103,957,009
1961.....	12,024	16,833	1,149,087	3,546,740	4,480,348	10,156,000	55,860,104	115,719,791
1962.....	10,333	14,466	1,134,534	3,661,174	3,926,683	9,435,819	64,432,411	141,783,520
1963.....	7,381	10,333	1,205,376	3,459,429	3,771,163	9,188,635	71,303,893	160,226,978
1964.....	4,688	6,516	1,246,682	4,014,316	4,417,224	10,296,549	81,377,641 ^r	186,171,931
1965.....	4,103	5,744	1,279,321	4,093,318	4,946,509	12,252,503	87,775,205	200,478,568
1966.....	6,836	20,508	1,323,781	4,236,099	5,230,712	12,956,474	93,218,119	212,723,748
		Alberta		British Columbia		Northwest Territories		Canada
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	bbl.	\$	bbl.	\$	bbl.	\$	bbl.	\$
1957.....	137,492,316	355,555,140	340,945	763,717	420,844	294,591	181,848,004	453,593,621
1958.....	113,277,847	283,262,592	512,359	1,022,156	457,086	698,266	165,496,196	398,747,811
1959.....	129,967,312	306,917,803	866,234	1,583,129	430,319	1,025,914	184,778,497	422,092,531
1960.....	130,506,968	302,841,423	867,057	1,626,590	468,545	641,219	189,534,221	422,926,491
1961.....	157,811,712	355,530,845	1,017,826	1,859,873	516,979	730,160	220,848,080	487,560,241
1962.....	165,124,967	379,830,363	8,914,220	16,872,122	572,004	755,045	244,115,152	552,352,501
1963.....	168,214,054	416,844,350	12,528,681	24,841,518	631,229	633,764	257,061,777	615,204,991
1964.....	175,441,589	450,186,921	11,525,601	23,261,946	586,296	438,549	274,599,721 ^r	674,376,721
1965.....	188,298,021	474,385,000	13,470,757	29,759,595	644,998	614,941	296,418,914	721,589,661
1966.....	203,339,433	524,005,719	16,671,328	36,726,936	752,585	842,895	320,542,794	791,512,871

26.—Natural Gas Produced, by Province, and Total Value, 1957-66

NOTE.—Figures from 1920 are given in the corresponding table of previous Year Books beginning with the 1940 edition.

Year	New Brunswick	Ontario	Saskatchewan	Alberta	British Columbia	Northwest Territories	Canada	
							Quantity	Value
	Mcf.	Mcf.	Mcf.	Mcf.	Mcf.	Mcf.	Mcf.	\$
1957...	176,417	14,400,513	13,994,347	183,140,820	8,274,542	19,243	220,006,682	20,962,501
1958...	123,957	16,147,086	18,819,765	239,049,591	63,638,297	24,100	337,803,726	32,057,501
1959...	117,502	16,839,236	33,612,666	267,568,626	69,128,708	67,189	417,334,527	39,609,301
1960...	98,701	16,587,056	36,571,633	383,682,586	85,562,166	39,785	522,972,327	52,196,801
1961...	96,318	14,544,165	37,192,595	500,843,900	103,018,988	41,673	655,737,644	68,421,901
1962...	95,750	15,648,294	38,845,732	770,963,122	121,063,122	56,707	946,702,727	108,641,101
1963...	103,524	15,920,055	39,936,193	943,354,973	118,058,694	51,478	1,117,425,217	150,468,701
1964 ^r ...	105,055	13,738,588	40,485,795	1,127,083,555	135,496,546	34,297	1,316,944,276	172,966,801
1965...	105,359	12,619,867	42,768,901	1,225,826,579	161,084,256	43,068	1,442,448,070	186,625,401
1966...	97,403	15,537,395	49,867,762	1,090,691,124	185,590,273	46,238	1,341,833,195 ¹	177,631,301

¹ Includes 3,000 Mcf. produced in Quebec.

Alberta.—The Rainbow Lake region in northwestern Alberta continued to retain the interest of the exploration companies. The Middle Devonian Keg River reef fields discovered in 1965, although limited in areal extent, have excellent producing characteristics and high reserves. Commercial oil and gas production was also obtained from the overlying Middle Devonian Muskeg, Sulphur Point and Slave Point formations. By the end of 1966, twelve separate Keg River oil pools and one gas pool had been discovered in the Rainbow Lake district. The producing trend was extended to Zama Lake, 45 miles to the north, where oil was discovered in commercial quantities in a geological setting similar to that of Rainbow Lake.

The total number of wells drilled in Alberta during 1966 was 1,667, a drop of 14.6 p.c. from 1965. Total footage drilled was down 20 p.c. from 10,200,000 feet to 8,200,000 feet. Both development and exploratory drilling decreased in 1966 with development drilling down 30 p.c. from the 1965 total of 5,700,000 feet and exploratory drilling down 9 p.c. from 4,500,000 feet.

There were several Middle Devonian gas discoveries reported from northwestern Alberta in 1966 and there is also a considerable volume of gas associated with the oil occurrences in the area. Two of the most important gas discoveries were made at Bistcho Lake, 90 miles north of Rainbow. However, the proven reserves of gas from the general region are, thus far, not sufficient to justify the construction of a gas pipeline.

The \$240,000,000 Athabasca bituminous sands project of the Great Canadian Oil Sands Limited neared completion in 1966. The plant is scheduled to begin commercial production in September 1967 with the maximum allowable production rate set at 45,000 barrels a day. The first of two giant bucket wheel excavators was assembled at the site and was in production early in 1967. The two excavators will handle 100,000 tons of sand a day when fully operative. A 226-mile-long, 16-inch-diameter oil pipeline constructed from Fort McMurray to Edmonton to transport the synthetic crude production was completed in 1966.

Saskatchewan.—Although exploratory drilling continued at a high rate in 1966, development drilling declined 17 p.c., mirroring an over-all decline in the discovery rate during the past few years. Total drilling declined 6 p.c. to 4,270,000 feet in 1,168 wells. Exploratory drilling increased from 443 wells (1,621,479 feet) in 1965 to 531 wells (1,921,000 feet) in 1966. Development drilling in 1966 consisted of 637 wells (2,352,123 feet), considerably fewer than the 846 wells (2,939,000 feet) in 1965. Interest in the deeper horizons was revived by the discovery of commercial oil production in the Upper Devonian Nisku formations 90 miles south of Regina. Several small pools were discovered along the established Mississippian producing trend during the year.

British Columbia.—Exploratory drilling in 1966 increased 14 p.c. to 134 wells (687,000 feet) but development drilling was down 30 p.c. to 78 wells (345,000 feet) from 1965. The large decrease in development drilling reflected the general lack of major oil discoveries in recent years. The Inga pool, discovered in 1965 and originally classed as a gas field, was found to have an oil column associated with the gas. This field was rapidly developed as an oil field in 1966 and, although it is classed as a medium-sized pool, it is the most important oil discovery made in British Columbia for some time. Significant gas reserves have been indicated by exploratory drilling in the Beaver River area straddling the British Columbia-Yukon border. Should approval be received for additional gas exports to the United States, Westcoast Transmission Company's pipeline would be extended to serve the area.

Offshore, Shell Canada Limited carried out further marine seismic work prior to drilling a deep test on its extensive holdings off the west coast of Vancouver Island. Drilling was scheduled to start in the summer of 1967.

Manitoba.—The decline in activity that commenced in 1965 continued in 1966. Aggregate drilling amounted to 143,870 feet, down 12 p.c. from 1965. Most of the decrease

was due to a slowdown in exploratory drilling, which at 55,663 feet declined 32 p.c. from 1965 and was limited to 19 wells, all being abandoned. Development drilling totalled 80,037 feet. Production increased 5.7 p.c. to 14,331 barrels a day in 1966, the gain being due mainly to secondary recovery procedures.

Yukon Territory and Northwest Territories.—Exploration in the Yukon and Northwest Territories continued at the same pace in 1966 as in 1965. Twenty-eight exploratory wells were drilled for a total footage of 121,620 feet compared with 18 wells and a footage of 119,581 feet in the previous year. A significant gas discovery was made in the Pointed Mountain area, 30 miles north of the Yukon-British Columbia border, late in 1966. Recently, Pan American Petroleum Corporation contracted to sell 1,500,000,000 Mcf. of gas to Westcoast Transmission Company, the bulk to be provided by the substantial potential reserves of the Beaver River area which straddles the Yukon-British Columbia border. This agreement should stimulate future exploration in the southeastern corner of the Yukon Territory.

Eastern Canada.—In Ontario, both exploratory and development drilling declined to the lowest level in recent years as total footage decreased to 250,000 feet, down 28.6 p.c. from 1965. A total of 146 wells were drilled of which 12 were completed as oil wells and 40 as gas wells. No significant oil discoveries were made but a gas discovery in the Basal Ordovician opened up a potential new area for exploration.

An exploratory test in Manitoba on the west coast of Hudson Bay was drilled to about 2,900 feet. Although the venture was geologically encouraging, no significant concentration of hydrocarbons was encountered. Two exploratory wells were drilled in the Grand Banks area, south of St. John's, Nfld., but both were dry and were abandoned. Geophysical activity continued at a high level on the continental shelf area of the East Coast where acreage held under Federal Government permits increased to 124,000,000 acres.

Petroleum Refining and Marketing.—Daily crude oil refining capacity continues to increase year by year, the total in 1966 reaching 1,141,000 bbl. Canada now has the eighth largest industry in the world in terms of crude treating capacity. Moreover, it is unquestionably one of the most advanced in terms of down-stream refinery units such as catalytic cracking and catalytic reforming.

27.—Crude Oil Refining Capacity, by Region, as at Jan. 1, 1946, 1956 and 1966

Region	1946		1956		1966	
	bbl./day	p.c.	bbl./day	p.c.	bbl./day	p.c.
Atlantic Provinces.....	34,300	13.9	42,300	6.1	127,000	11.1
Quebec.....	71,000	28.9	247,000	35.3	375,200	32.4
Ontario.....	77,950	31.7	159,700	22.8	324,300	28.4
Prairie Provinces and Northwest Territories....	40,815	16.6	180,800	25.8	214,400	18.1
British Columbia.....	21,800	8.9	70,250	10.0	100,200	8.1
Canada.....	245,865	100.0	700,050	100.0	1,141,100	100.0

In 1966, Canadian refineries received 1,038,000 bbl. of crude oil with domestic oil accounting for 58 p.c. of total receipts. Imported crude, on an average daily basis amounted to 434,000 bbl. with 217,000 coming from Venezuela, 91,000 from Iran and Iraq combined, 47,000 from Saudi Arabia, 41,000 from Nigeria, 15,000 from Libya, 13,000 from Trinidad and 10,000 from Kuwait. Imports of refined products increased slightly over 1965 to an average of 163,000 bbl. daily, a gain of 1,000 bbl. daily. Light and heavy fuel oil and diesel oil comprised the major categories of imports.

28.—Domestic and Foreign Crude Oil Received at Canadian Refineries, by Region
1955, 1960 and 1966

Region	1955		1960		1966	
	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign
	bbl./day	bbl./day	bbl./day	bbl./day	bbl./day	bbl./day
Atlantic Provinces and Quebec.....	—	210,423	—	337,494	17	432,924
Ontario.....	106,446	27,275	197,555	10,004	311,356	1,451
Prairie Provinces and Northwest Territories.....	133,961	—	145,499	—	197,420	—
British Columbia.....	47,431	—	65,917	—	94,449	—
Canada.....	287,838	237,698	408,971	347,498	603,242	434,375

Domestic demand in 1966 was made up of 1,106,000 bbl. daily of sales to consumers and 78,000 bbl. daily used in the petroleum industry, a total of 1,184,000 bbl. daily compared with the 1965 level of 1,071,000 bbl. Exports of crude oil, all to the United States, averaged 347,000 bbl. daily and product exports, consisting largely of natural gas liquids such as propane and butane, amounted to 31,000 bbl. daily.

Natural Gas Processing and Marketing.—Natural gas consumers and gas pipeline companies require gas that contains relatively little non-flammable content and is free of noxious components. Since a large proportion of gas produced in Canada does not meet market specifications, there is a major gas processing industry located mainly in Alberta which extracts ingredients that, in themselves, are valuable. These by-products include the natural gas liquids such as propane, butane and pentanes plus and elemental sulphur. At the end of 1966 there were 116 gas plants operating in Canada—102 in Alberta, five in British Columbia, five in Saskatchewan and four in Ontario. The addition in 1966 of 250,000 Mcf. daily of raw gas treating capacity raised the total to 6,350,000 Mcf. daily.

Of the 1,550,000,000 Mcf. of Canadian gas plus imports of 45,000,000 Mcf. available for consumption in 1966, 432,000,000 Mcf. went to the United States, 636,000,000 Mcf. was sold to residential, commercial and industrial consumers in Canada, and the remainder was used by the industry in pipeline, field or plant use. In total, 825,000,000 Mcf. of gas was consumed in Canada compared with 745,000,000 Mcf. in 1965.

Table 29 shows sales of natural gas in Canada as well as the number of customers. During 1966, natural gas supplied roughly 19.5 p.c. of Canada's energy requirements.

29.—Sales of Natural Gas in Canada, by Province 1966, with Totals for 1962-66

Province	Sales		Value per Mcf.	Customers Dec. 31
	Quantity	Value		
	Mcf.	\$	\$	No.
New Brunswick.....	62,037	187,206	3.02	2,061
Quebec.....	32,520,822	32,465,027	1.00	216,715
Ontario.....	240,084,871	210,575,310	0.88	714,314
Manitoba.....	37,617,213	25,553,416	0.68	103,486
Saskatchewan.....	65,008,673	28,716,968	0.44	122,687
Alberta.....	184,848,263	59,564,857	0.32	268,272
British Columbia.....	75,372,743	59,149,418	0.78	199,248
Canada, 1966.....	635,514,623	416,212,202	0.65	1,626,783
1965.....	573,016,223	369,306,826	0.64	1,569,538
1964.....	504,503,388	327,982,720	0.65	1,506,502
1963.....	451,598,298	287,686,684	0.64	1,449,290
1962.....	412,061,509	257,659,680	0.62	1,366,487

Subsection 4.—Coal

Production from Canadian coal mines was about 2 p.c. lower in 1966 than in 1965. Since 1956, annual production has declined about 3,500,000 tons, consumption about 9,800,000 tons and imports about 6,200,000 tons. Exports, on the other hand, doubled in the decade but this increase is accounted for almost entirely by higher exports of Western Canada bituminous coking coal, mainly to Japan. The weak competitive position of Canadian coals is attributed to a number of factors, including high production costs because of low productivity in comparison with coal mines in the United States, and high costs of moving coal long distances, particularly bituminous coal from mines in Nova Scotia and New Brunswick to the industrial centres of Ontario and Quebec. Mechanization of production, underground and surface coal preparation, particularly of slack and fine sizes, and quality control through coal sampling and analysis have all been increased by the Canadian industry in an effort to supply higher quality products at reduced costs.

Assistance to the coal industry was continued in 1966 by the Federal Government and the provincial governments concerned through research programs. The problem of fine coal production continued to receive attention with research directed toward improved methods of mining, beneficiation and combustion. Technical assistance was also rendered in the field of quality control through sampling and analysis, and studies of the coking properties of coals in relation to their preparation for export markets and their use in the metallurgical industry.

Financially, the Federal Government continued to assist the coal industry, through the Dominion Coal Board, in the acquisition of new equipment and by the payment of subventions on coal transportation. The latter amounted to almost \$33,000,000 in 1966 compared with \$26,700,000 in 1965. Assistance amounting to \$3,000,000 was applied to the export of about 1,000,000 tons of coal from Alberta and British Columbia, and federal payments of almost \$3,100,000 were made under the Atlantic Provinces Power Development Act, 1958, which indirectly aids the marketing of coal. Two loans for mine mechanization under the Coal Production Assistance Act were made during the year.

Production, Employment and Consumption.—Coal output in Canada in 1966 amounted to about 11,392,000 tons and the average value for all types was \$7.16 a ton. The number of man-days employed by the industry was 2,199,678 as against 2,233,447 in 1965. All producing provinces (except British Columbia) and Yukon Territory contributed to the decrease; Nova Scotia recorded a drop of 0.9 p.c., New Brunswick one of 4.5 p.c., Saskatchewan 7.1 p.c., Alberta 5.1 p.c., and Yukon Territory 23.5 p.c. Employment in British Columbia mines increased 7.3 p.c.

Of the total coal produced in 1966, 59 p.c. was bituminous with an average value of \$10.70 a ton at the mine, subbituminous accounted for 23 p.c. with an average value of \$2.28 a ton, and lignite for 18 p.c. with an average value of \$1.79 a ton. Production of bituminous coal was down 3.5 p.c. from 1965 but subbituminous and lignite production increased 1.3 p.c. and 0.7 p.c., respectively. The proportion produced by stripping methods was 47.2 p.c. The output per man-day from strip mines was 20.15 tons and that from underground mines 3.11 tons. The over-all output per man-day remained about the same in 1966 as in 1965.

Consumption of coal in Canada in 1966 was about 26,500,000 tons, almost 62 p.c. of which was imported. Of the imported coal, 96.3 p.c. was bituminous coal used mainly in Ontario and Quebec. Imports were slightly lower than in 1965. The production of coke used about 5,900,000 tons of coal, of which about 93 p.c. was imported by Ontario

and Nova Scotia plants. Sales of coal to the commercial and household heating markets amounted to about 1,700,000 tons and those to industrial consumers, including thermal-electric power plants, amounted to 15,100,000 tons, a decrease of 2.4 p.c. from 1965. Exports amounted to 1,229,000 tons in 1966, most of it from Western Canada going to Japan and the United States for blending in the manufacture of metallurgical coke. The exports also included about 3,300 tons from Nova Scotia to the Island of St. Pierre, about 13,000 tons from New Brunswick to the eastern United States, and about 7,400 tons from Saskatchewan to the United States. The manufacture of briquettes decreased from 68,596 tons in 1965 to 38,290 tons in 1966.

30.—Coal Production, by Province, and Total Value, 1957-66

NOTE.—Figures from 1874 are given in the corresponding table of previous Year Books beginning with the 1911 edition.

Year	Nova Scotia	New Brunswick	Saskatchewan	Alberta	British Columbia	Yukon Territory	Canada	
							Quantity	Value
	tons	tons	tons	tons	tons	tons	tons	\$
1957.....	5,685,770	976,597	2,248,812	3,156,546	1,113,699	7,731	13,189,155	90,220,670
1958.....	5,269,879	790,719	2,253,176	2,519,901	849,091	4,344	11,687,110	79,963,327
1959.....	4,391,829	1,003,387	1,947,380	2,528,755	751,492	3,879	10,626,722	73,875,895
1960.....	4,570,240	1,028,064	2,170,797	2,391,699	843,868	6,470	11,011,138	74,676,240
1961.....	4,300,758	887,903	2,208,851	2,027,826	964,663	7,703	10,397,704	70,052,683
1962.....	4,204,779	815,529	2,256,306	2,087,310	913,196	7,649	10,284,769	69,160,213
1963.....	4,554,944	886,336	1,873,556	2,289,543	962,684	8,231	10,575,694	71,756,581
1964.....	4,293,130	1,003,362	1,994,039	2,971,133	1,050,430	7,229	11,319,323	72,735,085
1965.....	4,134,161	996,328	2,063,933	3,413,928	971,465	8,801	11,588,616	75,901,126
1966.....	3,854,534	898,315	2,078,165	3,467,254	1,087,631	5,670	11,391,569	81,559,794

31.—Consumption of Canadian and Imported Coal in Canada, 1957-66

NOTE.—Figures from 1886 are given in the corresponding table of previous Year Books beginning with the 1921 edition.

Year	Canadian Coal ¹		Imported Coal 'Entered for Consumption' ²				Grand Total	Consumption per Capita
			From United States	From Britain	Total ³			
	tons	p.c.	tons	tons	tons	p.c.	tons	tons
1957.....	12,478,626	39.6	18,910,544	134,671	19,041,030	60.4	31,519,656	1.90
1958.....	11,054,757	43.9	14,089,557	65,275	14,154,121	56.1	25,208,878	1.48
1959.....	10,589,263	43.1	13,861,676	96,814	13,958,996	56.9	24,548,259	1.41
1960.....	9,973,308	42.9	13,211,493	65,375	13,276,599	57.1	23,249,907	1.31
1961.....	9,572,805	44.3	12,253,272	53,226	12,057,086	55.7	21,629,891	1.19
1962.....	9,510,293	43.4	12,583,618	30,571	12,377,965	56.6	21,888,258	1.18
1963.....	9,504,903	42.0	13,348,913	21,101	13,105,686	58.0	22,610,589	1.20
1964.....	10,080,243	40.0	14,983,536	5,578	14,987,656	59.8	25,067,899	1.29
1965.....	10,181,171	38.0	16,590,348	5,045	16,593,547	62.0	26,774,718	1.35
1966.....	10,117,756	38.1	16,436,755	—	16,435,111	61.9	26,552,867	1.32

¹ The sum of Canadian coal mines' sales, colliery consumption, coal supplied to employees and coal used in making coke, etc., less the tonnage of coal exported. ² Imports of briquettes are not included in this table but are shown separately in Table 32. ³ Deductions have been made from this column to take account of foreign coal re-exported from Canada; bituminous coal ex-warehoused for ships' stores was deducted for the years prior to 1964.

32.—Imports of Anthracite, Bituminous and Lignite Coal and Briquettes, and Exports of Domestic Coal, 1957-66

NOTE.—Figures from 1868 are given in the corresponding table of previous Year Books beginning with the 1911 edition.

Year	Imports of Coal and Briquettes				Exports of Domestic Coal	
	Anthracite	Bituminous ¹	Briquettes ²	Totals		
	tons	tons	tons	tons	\$	tons \$
1957.....	1,925,498	17,548,585	73,306	19,549,555 ²	118,581,708	396,311 3,357,959
1958.....	1,556,018	12,934,262	41,820	14,533,135 ²	88,552,326	338,544 2,907,513
1959.....	1,603,909	12,621,429	24,521	14,260,639 ²	84,808,838	473,768 3,582,313
1960.....	1,297,467	12,250,832	15,528	13,580,364 ²	77,174,112	852,921 6,789,163
1961.....	1,058,157	11,237,629	9,664	12,316,162 ²	71,717,030	939,360 8,541,679
1962.....	914,336	11,687,898	7,608	12,621,797 ²	74,307,252	901,560 8,590,693
1963.....	847,326	12,513,423	6,445	13,376,851 ²	78,837,274	1,056,788 9,916,398
1964.....	653,838	14,333,991	7,140	14,996,254 ²	86,472,326	1,283,612 11,936,285
1965 [*]	640,161	15,954,002	7,600	16,602,993 ²	126,200,054	1,225,994 12,671,785
1966.....	594,193	15,842,562	5,045	16,441,800	140,985,031 ²	1,228,820 13,202,006

¹ Includes coal ex-warehoused for ships' stores.

² Coal or coke.

^{*} Includes small amounts of lignite.

Provincial Production.—Coal is produced in five provinces of Canada and in the Yukon Territory but the largest market for this commodity is in the central provinces where there is no coal production.

Nova Scotia accounted for 33.8 p.c. of the total Canadian output of coal in 1966; its production of 3,854,534 tons was 6.8 p.c. lower than in 1965. The province's coal is mainly high volatile bituminous coking coal mined in the Sydney, Cumberland and Pictou areas, although some non-coking bituminous coal is mined in the Ste. Rose area of Cape Breton Island. The average value at the mines in 1966 was \$13.36 a ton and the output per man-day was about 2.53 tons. All production comes from underground mines, which are mostly mechanized. About 61 p.c. was shipped to other provinces, mainly to Ontario and Quebec, to be used for industrial purposes and the remainder was used locally for steam-raising, power generation, household and commercial heating and the manufacture of metallurgical coke.

New Brunswick's production, of which more than 83 p.c. was strip-mined in 1966 is entirely high volatile bituminous coal mainly from the Minto area, a small amount coming from strip mines in the Chipman and Coal Creek areas. The 1966 production of 898,315 tons was 7.9 p.c. of Canada's output. Average output per man-day from strip mines was 5.33 tons and from underground mines 1.92 tons. The coal had an average value at the mines of \$8.78 a ton. A large part of the production is used locally for heating power generation and processing; in 1966 about 7.3 p.c. was shipped to Central Canada and about 1.5 p.c. to the United States.

Saskatchewan's coal production is entirely lignite, mined by stripping in the Bienfait and Estevan areas in the Souris Valley; this is the only active lignite coal-field in Canada. Production in 1966 was slightly higher than in 1965, amounting to 2,078,165 tons and representing 18.2 p.c. of the Canadian production. The average output per man-day was 47.48 tons and the average value at the mines was \$1.79 a ton. This is the cheapest source of coal in Canada. The Estevan area serves the provincially owned Boundary Dam thermal-electric generating station which uses a large share of the total lignite production. More than 35 p.c. of the 1966 output was shipped to Manitoba and Ontario for industrial, commercial and household use; the remainder was used within the province for similar purposes.

Alberta's production of coal increased 1.6 p.c. in 1966 to 3,467,254 tons, which was 30 p.c. of the Canadian output. Several types of coal are available in the province, ranging from semi-anthracite mined in the Cascade area to subbituminous. Coking bituminous coals are present in the Inner Foothills Belt but, because of market conditions, they are at present mined mainly in the Cascade and Crowsnest areas. In several areas of the foothills, lower rank bituminous non-coking coals are available but production in 1966 was confined to a very small output in the Lethbridge area. Subbituminous coals made up about 75 p.c. of Alberta's coal output in 1966 and were used mainly for household and commercial heating and thermal power generation, the latter using increasing quantities. Production amounted to 2,587,685 tons, which constituted the total Canadian subbituminous coal output. Alberta's output of bituminous coal was 879,569 tons in 1966, an increase of 2.4 p.c. over 1965.

Of the total coal output in Alberta, 70 p.c. was strip-mined and the average output per man-day for strip mines was 31.93 tons compared with 5.24 tons for underground mines. The average value of bituminous coal was \$6.87 a ton at the mine and that of subbituminous coal \$2.28 a ton. About 21 p.c. of the production moved outside the province—11 p.c. to Saskatchewan, 6 p.c. to British Columbia, 3 p.c. (mainly subbituminous) to Manitoba and under 1 p.c. to Ontario.

Most of *British Columbia's* coal output in 1966 came from the Crowsnest area in the East Kootenay district. The remainder came from Vancouver Island and from mines on the northern mainland, where a small amount was produced. The coals range from high volatile to low volatile bituminous coking coals and over 89 p.c. came from underground mines. Production increased 12 p.c. to 1,087,631 tons, representing 9.5 p.c. of the country's output, and had an average value of \$5.92 a ton at the mine. The average output per man-day was 20.34 tons for strip mines and 7.31 tons for underground mines. About 35 p.c. of the production was exported, most of it to Japan for blending in the manufacture of metallurgical coke. In addition, 13 p.c. was shipped to Manitoba, 2 p.c. to Ontario and small quantities to Alberta and Saskatchewan.

Yukon Territory produced about 5,700 tons of coal in 1966 from a single underground mine with an average output per man-day of 3.11 tons. This coal was valued at \$8.18 a ton and was all used locally.

Section 2.—Government Aid to the Mineral Industry

Subsection 1.—Federal Government Aid

Federal assistance to the mining industry takes the form of the provision of detailed geological, topographical, geodetic, geographical and marine data which are of basic importance to the discovery and development of the mineral resources of Canada; the provision, through laboratory and pilot-plant research, of technical information concerning the processing of ores, industrial minerals and fuels on a commercial scale; financial and technical assistance to the gold-mining industry under the Emergency Gold Mining Assistance Act, and certain tax incentives.

The Department of Energy, Mines and Resources.—The federal Department of Energy, Mines and Resources came into being on Oct. 1, 1966. It embraces all of the functions of the former Department of Mines and Technical Surveys, and new functions pertaining to water and energy resources. Apart from its administrative establishments, the Department is made up of four Groups—Mines and Geosciences, Mineral Development, Water, and Energy Development—each headed by an assistant deputy minister and each aiding the Canadian mineral industry in some way.

The Mines and Geosciences Group.—This Group contains four branches—the Mines Branch, the Geological Survey of Canada, the Observatories Branch and the Surveys and Mapping Branch.

The *Mines Branch* is a large laboratory and pilot-plant complex carrying out applied and basic research to discover new and better methods of ensuring mine safety, extracting and refining ores and other minerals, and using metals and minerals in industry and defence. Gratifying results have been achieved in the extraction of metals from ores and in the refining of low-grade crude oil, in the automation of grinding circuits and cyanide leaching processes in gold mills and in the leaching of ground or crushed uranium ores by bacteria. In pyrometallurgy—the extraction of metals by heat—applied research is concentrated principally on the combination of shaft and electric furnaces for smelting iron ore. In petroleum refining, research concerns hydrogenation, catalytic cracking, and catalyst development. This work is highly significant because of the opening-up of unconventional sources such as the Athabasca tar sands and the so-called Colorado oil shales, whose economic importance has been recognized by the Mines Branch for many years. A close tie-in with producers is maintained in mineral processing in which the emphasis is on the concentration of metallic ores and on the processing and improvement of industrial minerals. In the field of mineral sciences, the physical, chemical, crystallographic and magnetic studies being undertaken on sulphide minerals are of fundamental interest. In physical metallurgy, experiments on new alloy combinations continue to yield valuable practical benefits for Canadian industry.

The Mines Branch, on the advice of experts from industry and the universities, also awards an annual series of research grants in mining sciences to Canadian universities. In 1966, the total amount to be distributed annually was raised from \$50,000 to \$100,000.

The *Geological Survey of Canada* carries out geological investigations in Canada and compiles and publishes information in the form of reports, maps and other graphic representations. The scope of its activities extends into many aspects of the geological sciences, including geochemistry, geophysics, geomorphology, mineralogy, palaeontology, petrology, surficial and bedrock geology, and petroleum geology. The Survey's objectives are to systematically study, describe and explain the geology of Canada in order to find out more about the nation's potential mineral resources, and to provide this information to those engaged in discovering, exploring and developing these resources; to increase fundamental knowledge on the origin of rocks and minerals and to develop new theories, methods and instruments; and to help in the scientific training of young Canadians in these fields. Each year, the Geological Survey sends about 100 parties into many parts of Canada. They conduct broad regional investigations in the Canadian Shield, the Appalachian and the Cordilleran geosynclinal belts, the sedimentary basins of the mainland and the Arctic Archipelago, and unconsolidated sediments. As the first systematic reconnaissance of Canada is approaching completion, the country's major geological features are reasonably well known and attention is now given to more fundamental aspects of Canadian geology. An example is the recently concluded agreement with the Province of Quebec for a jointly financed aeromagnetic survey on both sides of the lower St. Lawrence River. The agreement is part of a 12-year \$18,000,000 federal-provincial program of aeromagnetic survey.

The headquarters of the Geological Survey are at Ottawa but it has several regional offices and a recently opened Institute of Sedimentary and Petroleum Geology in Calgary which will serve the special needs of the western provinces. The Survey each year awards a large number of grants in support of geological research in Canadian universities, at present totalling \$150,000.

A great deal of geophysical work of interest to prospectors is being carried on by several divisions of the *Observatories Branch*. Its airborne geomagnetic surveys, which have ranged all over Canada and across the Atlantic to Scandinavia, have become famous

There is also a network of nine permanent geomagnetic observatories, and temporary observatories are placed at many widely distributed sites each summer. The Branch also operates 23 first-order seismic stations and many temporary stations. Gravity research, yet another means of studying the composition of the earth's crust, is also being intensively pursued by field parties in all parts of Canada, including the Arctic and the bottoms of the Gulf of St. Lawrence and Hudson Bay.

No mineral development is possible without accurate, large-scale topographical maps, and progress in this field by the *Surveys and Mapping Branch* continues to be gratifying.

The Mineral Development Group.—This Group conducts broad economic and mineral-commodity studies and gathers comprehensive domestic and world data on all minerals, including energy minerals, for the use of government and private industry. It also licenses and leases mineral exploration in offshore areas south of the 60th parallel and in Hudson Bay, administers the Emergency Gold Mining Assistance Act (see p. 613), and the Explosives Act, and co-ordinates the Department's foreign-aid work.

Current activities in these fields include regional studies of the mineral economy of the Atlantic Provinces, including the Cape Breton coal situation; assessment of mineral projects in various parts of Canada for which federal support has been requested; and the safeguarding of Canadian mineral interests through participation in international agencies such as the United Nations Lead-Zinc Study Group, the United National Steel Committee, the Organization for Economic Co-operation and Development, the General Agreement on Tariffs and Trade, and the International Tin Council. In collaboration with the External Aid Office, the Group is setting up training courses for mineral scientists, technologists and economists brought to Canada under the various aid programs, chiefly the Colombo Plan, and is advising on mineral projects undertaken by Canada as an aid to developing countries. The Group publishes an extensive series of reports and other material, and maintains the Mineral Occurrence Index, which is a listing of about 10,000 mineral showings and deposits in Canada that may be consulted by anyone interested. Also of considerable value to the mining industry are the federal-provincial roads programs described in Chapter XIX, Part III, Sect. 2.

The Water Group.—The Water Group advises on federal water policies, undertakes joint programs with provinces for water conservation and development, co-ordinates the work of federal agencies in water-resource management and water pollution, carries out broad hydrometric and hydrographic surveys, and conducts oceanographic and limnological research. Of interest to the mining industry is the study of pollution problems in mining areas, such as current projects in northeastern New Brunswick and on the headwaters of the Saskatchewan River system.

The Energy Development Group.—This Group examines Canada's total energy situation and requirements, and recommends policies and projects concerning Canada's energy resources. Among the administrative agencies that report to the Minister of Energy, Mines and Resources, four are concerned with some aspect of energy development. These are the National Energy Board, the Dominion Coal Board, Atomic Energy of Canada Ltd., and Eldorado Mining and Refining Ltd. The Assistant Deputy Minister for Energy Development serves as adviser on over-all plans and policies relating to energy.

*The Dominion Coal Board.**—The Board was established by the Dominion Coal Board Act (RSC 1952, c. 86) which was proclaimed on Oct. 21, 1947. By this Act the Board was constituted a department of government to advise on all matters relating to the production, importation, distribution and use of coal in Canada. The Board is also charged with the responsibility of administering, in accordance with regulations of the Governor in Council, any coal subventions or subsidies voted by Parliament.

* Revised under the direction of Hon. J. Watson MacNaught, Chairman of the Dominion Coal Board, Ottawa.

The Board is empowered to undertake research and investigations with respect to:—

- (1) the systems and methods of mining coal;
- (2) the problems and techniques of marketing and distributing coal;
- (3) the physical and chemical characteristics of coal produced in Canada with a view to developing new uses therefor;
- (4) the position of coal in relation to other forms of fuel or energy available for use in Canada;
- (5) the cost of production and distribution of coal and the accounting methods adopted or used by persons dealing in coal;
- (6) the co-ordination of the activities of government departments relating to coal; and
- (7) such other matters as the Minister may request or as the Board may deem necessary for carrying out any of the provisions or purposes of the Act.

In addition, the Dominion Coal Board Act provides authority in the event of a national fuel emergency to ensure that adequate supplies of fuel are made available to meet Canadian requirements.

The Act authorizes a Board membership of seven, including the chairman. The latter is the Chief Executive Officer, has the status of a deputy minister, spends full time on the Board's business, receives a salary and is in charge of a public service staff. The other members, men of long experience and expert knowledge of aspects and regions of the Canadian coal industry, receive *per diem* payments and travelling expenses while attending Board meetings or while otherwise officially engaged on Board business.

In general, the Board and its staff constitute a central agency through which representations on coal matters are made to the Government from any sector of the industry or the public. Conducting a continuous study of developments and problems within the industry, exchanging information with provincial authorities concerned with coal and with national authorities and agencies in other countries and maintaining the most complete files of Canadian coal information in existence, the Board makes recommendations to the Government and reports to Parliament through the Minister of Energy, Mines and Resources.

Since its inception, the Board has worked toward the co-ordination of the activities relating to coal of various government departments and other agencies. Its own responsibilities in research on the mining and utilization of coal have been carried out mainly by the Fuels Research Centre, Mines Branch, Department of Energy, Mines and Resources although on occasion, the Board has recommended or commissioned specialized types of research to be conducted outside the government service. As a contribution to the co-ordination of coal research and to the dissemination to the industry of technical information resulting from research, the Board initiated the now annual Dominion-Provincial Conferences on Coal. The Dominion Bureau of Statistics collects much of the statistical information required by the Board.

Government purchases of fuel, which constitute an important outlet for coal, claim a part of the time of the Board's staff in an advisory capacity. Advice on fuel matters is also continuously available to all government departments and agencies. A senior official of the Coal Board is chairman of the Interdepartmental Fuel Committee, which advises on the supply, purchase and utilization of fuel for the Department of National Defence, and of the Dominion Fuel Committee, which is organized along similar lines as an advisory body to other government departments.

The subvention assistance on the movement of Canadian coals, which the Board administers, is authorized by votes of money by Parliament; payments are in accordance with Regulations established by Order in Council. This assistance, which has been provided in varying degrees for the past 30 years, was designed to further the marketing of Canadian coals by equalizing as far as possible the laid-down costs of Canadian coals with imported coals. During the year ended Mar. 31, 1967, a total of 6,420,513 tons of coals was shipped under subvention and \$37,698,975 was paid in assistance.

As agent to the Minister of Energy, Mines and Resources, the Board administers loans under the Coal Production Assistance Act (RSC 1952, c. 173, as amended by SC 1958, c. 36; SC 1959, c. 39; SC 1960-61, c. 20; and SC 1962-63, c. 13). The Board also administers payments under the Canadian Coal Equity Act (RSC 1952, c. 34), which provides a subsidy on Canadian coal used in the manufacture of coke for metallurgical purposes. In the year ended Mar. 31, 1967, payments under this Act totalling \$82,260 were made on 166,182 tons of coal.

Emergency Gold Mining Assistance Act.—Under this Act, which came into force in 1948 (RSC 1952, c. 95), financial assistance is provided to marginal gold mines to counteract the effects of increasing costs of production and a fixed price for gold. By enabling gold mines to extend their productive life, the subventions help communities dependent on gold mining to adjust gradually to diminishing support.

In 1963 an amendment extended the provisions of the Act to Dec. 31, 1967 and also introduced a restriction which affects lode gold mines coming into production after June 30, 1965; such mines are eligible for assistance only if the mine provides direct economic support to an existing community, that is, if the majority of the persons employed at the mine reside in one or more of the established communities that are specified in a schedule to the Act. The restriction does not apply to lode mines in production before July 1, 1965 nor to placer gold mines. A second amendment passed Nov. 28, 1967, extended the application of the Act to Dec. 31, 1970, without changing the method of computing the amount of assistance payable.

The amount of assistance payable to an operator is determined by a formula and is based on the average cost of production per ounce and the number of ounces produced; it ranges from zero to \$10.27 per ounce produced. Gold mines having a cost of production of \$26.50 or less per ounce receive no assistance and those having a cost of production of \$45.00 or more per ounce receive the maximum rate of \$10.27 per ounce.

Under the current formula, the assistance payable to the operator of a gold mine is computed by adding 25 p.c. to the product of two factors, the "rate of assistance" and the number of "assistance ounces". The number of assistance ounces is two thirds of the total ounces produced and sold to the Royal Canadian Mint by a mine in a calendar year. The rate-of-assistance factor is two thirds of the amount by which the average cost of production exceeds \$26.50. The rate-of-assistance factor is limited to a maximum of \$12.33 which is reached when the average cost of production rises to \$45 per ounce of gold produced. The average cost of production is determined by dividing the total allowable costs by the total number of ounces produced in the form of bullion from the mine in a calendar year. Only those ounces of gold that have been sold to the Royal Canadian Mint are eligible for inclusion in the assistance-ounces factor. The cost of production includes mining, milling, smelting, refining, transportation and administration costs. Allowances are made for depreciation, pre-production costs and expenditures on exploration and development on the mine property in accordance with the Regulations.

The amounts paid to operators of gold mines to Mar. 31, 1967 for the years 1948-66, inclusive, totalled \$231,024,273 on a production of 53,380,055 oz.t. of gold produced and sold in accordance with the requirements of the Act. The assistance payable for gold produced and sold under the Act in the calendar year 1966 is estimated to be \$15,600,000.

The Act is administered by the Department of Energy, Mines and Resources with the aid of the Office of the Comptroller of the Treasury in accounting matters.

Subsection 2.—Provincial Government Aid*

Newfoundland.—The Newfoundland Government, through the Mines Branch of the Department of Mines, Agriculture and Resources, provides several valuable services to those interested or involved in exploration and mining, including: the conduct of a

* Compiled from material supplied by the respective provincial governments.

continuing program of mineral assessment designed to encourage development of the mineral resources of the province; the inspection of exploration work carried out on concession areas and the examination of mining operations; the administration of beaches (control of removal of sand and gravel as a conservation measure) and the collection of data relevant to the control of sand removal; the identification of mineral rock specimens submitted by the public and the examination of corresponding occurrences where such is warranted; the dispensing of technical advice, in so far as possible, to those who seek such service (i.e., in hydrological problems and on the availability of quarryable peat moss to be removed by permit); co-operation with the Geological Survey of Canada and other Federal Government agencies; and the preparation and publication of data useful for educational and general informational purposes, including the preparation of mineral and rock sample sets. Geological reports, geophysical maps and compilations of general data pertaining to specific areas are procurable at nominal cost and other information from unclassified files is made available to interested parties. Prospector's or miner's permits are issued by the Mines Branch and mining claims are recorded.

Nova Scotia.—Under the provisions of the Mines Act (RSNS 1954, c. 179), the Government of Nova Scotia may assist a mining company or operator in the sinking of shafts, slopes, deeps and winzes and the driving of adits, tunnels, crosscuts, raises and levels. This assistance may take the form of work performed under contract, the payment of bills for materials and labour, or the guarantee of bank loans. Any such work must be approved by the Department of Mines. Mining machinery and equipment to be used in searching for or testing and mining minerals may be made available through the Government. Such equipment is under the direct supervision of the Chief Mining Engineer.

The Government of Nova Scotia is also empowered to make any regulations considered necessary for increasing the output of coal. Such regulations cover the appropriation, or payment, of unworked coal lands, the operation of coal mines, and loans or guarantees for loans. Close co-operation is maintained with the Federal Government in carrying out federal regulations made to secure increased production and economical distribution of coal from the mines of the province.

New Brunswick.—The Mines Division of the Department of Natural Resources has three Branches. The *Mineral Resources Branch* administers the disposition of Crown mineral rights including the issuing of prospecting licences, recording of mining claims, issuing of mining licences and leases and other matters pertaining thereto. Detailed and index claim maps are prepared for distribution. The Branch is responsible for general and detailed geological mapping and investigations. Maps and reports are prepared for distribution, mineral and rock specimens are examined for prospectors and preliminary examinations of mineral prospects are made when requested and circumstances warrant. The *Mines Branch* administers the safety regulations governing operations under the Mining Act. All mines are regularly inspected, laboratory facilities are maintained and certain equipment used in mines must be approved. The Branch is responsible also for the collection of mining taxes and royalties and the preparation of statistics on mineral production. The *Water Branch* administers the Water Act, is responsible for the use and allocation of all surface, ground and shore waters and for pollution control measures and implements policy matters as determined by the New Brunswick Water Authority. A Regional Office, staffed by geologists and inspectors, is maintained at Bathurst, serving as a recording office for northeastern New Brunswick. Claim maps and topographical, geological and aeromagnetic maps are available for perusal and distribution.

Quebec.—Through its Mineral Resources Branch, the Department of Natural Resources implements the Mining Act (SQ 1965, c. 34). The Branch has four Divisions—Geology, Mining, Laboratories and Pilot Plant.

The *Geological Surveys Division* is concerned with geological exploration, mineral deposits, mapping and hydrogeology. It conducts studies on the geological composition

of Quebec territory for the development of mineral resources; following yearly expeditions, detailed reports of the findings and geological maps of different regions are made available for the use of interested persons. A unique system of index plans affords prospectors a precise, quick and valuable technical documentation. The Division also conducts surveys on underground water and supervises drilling and boring by private companies exploring for hydrocarbons.

The *Mining Division* is concerned with civil engineering and mining exploration and inspection. It issues prospecting and development permits, grants mining lands for working purposes, and collects fees for mining rights. It is responsible for the inspection of mines, quarries and processing plants to ensure that operations are consistent with regulations and to ensure the safety of mine workers. A trained rescue crew of about 375 members operates as three main groups and nine secondary groups. In addition, all workers in active underground mines are trained in rescue operations. The Department undertakes the construction and maintenance of mining roads as authorized under the Mining Act; it has constructed and paid the full cost of certain highways leading to new mining districts. In addition, to avoid the establishment of slums in the vicinity of mining enterprises, the Department regulates the use of the land and authorizes the building of well-organized residential areas.

Laboratories, operated for the use of prospectors, geologists, engineers and mine operators, include equipment for mineralogy, petrography, the dressing of ore, wet and dry assays, spectrography or X-ray photography. Mineral determinations are made free of charge but the assaying of ore content is subject to a fee; free coupons are issued by the Department to be used by prospectors for payment of assays. The laboratories have patented 12 new processes for the extraction and treatment of minerals and, because of the development of such new metallurgical processes, certain minerals once deemed valueless are now of great commercial importance.

To provide for the future development of the mining industry, scholarships are granted to students wishing to follow a career in geology, mining and metallurgical engineering, as well as to students in hydrology or other relevant fields of science (hydro-electricity, hydraulics or meteorology). The Department, in co-operation with universities in Quebec and Montreal, gives yearly courses in prospecting and lectures are given by departmental geologists and engineers at various points in the province.

Ontario.—The Ontario Department of Mines renders a multiplicity of services of direct assistance to the mining industry within the province. The *Mining Lands Branch* of the Department handles all matters dealing with the recording of mining claims, assessment work, etc., and the preparation of title to mining lands. As a service to the mining public, individual township maps are prepared and kept up to date showing lands open for staking and recorded and patented claims therein. District Mining Recorders maintain offices at strategic locations throughout the province. The *Geological Branch* carries on a continuing program of geological mapping and investigation and prepares, for the use of the public, detailed reports and maps of the areas studied. A program is under way, in co-operation with the Geological Survey of Canada, through which the whole province is to be flown and mapped in a series of airborne magnetometer surveys. In many active areas of the province, resident geologists gather and make available to the public information concerning geological conditions, exploration and development within their respective districts. A geologist specializing in industrial minerals investigates methods of treatment and recovery of such minerals and compiles data on the uses, specifications and markets for such products. During the winter months, courses of instruction for prospectors are held in various centres throughout the province.

The work done by the *Laboratory Branch* includes wet analyses and assays of metal and rock constituents on a custom fee basis, as well as mineralogical analyses and physical testing. The same service is given free of charge to holders of valid assay coupons issued for the performance of assessment work on mining claims. The *Temiskaming Testing*

Laboratories, situated at Cobalt, operate a bulk sampling plant mainly to assist the producers of the area in marketing their silver-cobalt ores; they also perform fire assays and chemical analyses. The *Inspection Branch* administers the operating rules of the Mining Act which call for the regular examination of all operating mines, quarries and sand and gravel pits and certain metallurgical works with a view to ensuring proper conditions of health and safety to the men employed. District offices to serve the local areas are maintained in the major mining centres of the province. Mine rescue stations in the principal mining sections are operated under the supervision of the Branch and all hoisting ropes in use at mines are periodically tested by a Branch-operated cable-testing laboratory.

Since 1951 the Department has been engaged in a road-building program to give access to mineralized areas and open them for full development. In 1955 this became an interdepartmental project with other interested departments participating through an interdepartmental committee of Ministers which decides on priorities and locations. Actual construction is carried out by the Department of Highways. Under the federal-provincial Roads to Resources Program inaugurated in Ontario in 1959, the provincial government shared equally in the cost of constructing roads to otherwise inaccessible areas (see also the Transportation Chapter, Part III, Section 2). The agreement expired on Mar. 31, 1967.

The *Public Relations Branch* of the Department carries out a regular publicity and information program and maintains a library of films on mining subjects which are available for free loan to the public. Each year, displays pertaining to mining are prepared and presented at the Canadian National Exhibition and elsewhere in the province.

Manitoba.—The Mines Branch of the Manitoba Department of Mines and Natural Resources offers five main services of assistance to the mining industry: maintenance, by the Mining Recorder's offices at Winnipeg and The Pas, of all records essential to the granting and retention of titles to every mineral location in Manitoba; compilation, by the geological staff of the Branch, of historical and current information pertinent to mineral occurrences of interest and expansion of this information by a continuing program of geological mapping; enforcement of mine safety regulations and, by collaboration with industry, introduction of new practices such as those concerned with mine ventilation and the training of mine rescue crews which contribute to the health and welfare of mine workers; and maintenance of a chemical and assay laboratory to assist the prospector and the professional man in the classification of rocks and minerals and the evaluation of mineral occurrences. Manitoba also aids the mining industry by assisting in the construction of access roads to mining districts.

To encourage the exploration for minerals in Manitoba, the Mineral Exploration Assistance Act was passed in April 1966. This Act provides for the payment of grants to individuals to assist in defraying the cost of exploration within designated areas. If assisted exploration results in the discovery of a deposit, the grant is repayable from the profits of the mine; a grant for exploration that proves unsuccessful is not repayable.

Saskatchewan.—Assistance to the mining industry in Saskatchewan is administered by the Department of Mineral Resources. The *Mineral Lands Branch* of the Department is responsible for administering the Precambrian Assistance Program. This Program, designed to stimulate development and utilization of the mineralized areas of northern Saskatchewan, offers to industry a 50-p.c. rebate of approved exploration expenditures on a specified area or property to a maximum of \$50,000 a year for each individual or company and a maximum of \$150,000 on any one area or property. This Branch is also responsible for making disposition of all Crown minerals and maintains records respecting areas let out by lease, permit or claim. Recording offices, located at Regina, La Ronge, Uranium City and Creighton, assist the public in determining the lands available and accept applications.

Officers of the *Engineering Branch*, under the authority of the Mines Regulation Act, make regular examinations of all mines to ensure proper conditions for the health and

safety of the men employed. Safety education, particularly in the form of first aid and mine rescue instruction, is also a part of the work of this Branch. All Branch officers are stationed at the Regina headquarters.

The Precambrian Geology Division of the *Geological Sciences Branch* conducts geological surveys in the shield areas of the province and publishes maps and reports for the information and guidance of the industry. Resident geologists are maintained at Uranium City and La Ronge and at the latter centre a laboratory provides for the storage and examination of core and samples. The Division processes exploration data and assessment work to be made available for inspection by the industry.

Alberta.—Alberta Government assistance to the mining industry is diversified in character. The Mines Division of the Department of Mines and Minerals regulates coal mines and quarries and maintains standards of safety by inspection and certification of workers. The Workmen's Compensation Board also maintains safety standards and pays the cost of training mine rescue crews. The oil and gas industries are served in a similar way by the Oil and Gas Conservation Board. Its regulatory measures, however, are also concerned with preventing the waste of oil and gas resources and with giving each owner of oil and gas rights the opportunity of obtaining a fair share of production. This Board compiles periodic reports and annual records which are of invaluable assistance in oil development in Alberta. The mining industry is also served by the Research Council of Alberta which has made geological surveys of most of the province and has carried forward projects concerned with the uses and development of minerals. The Council has studied the occurrence, uses and analyses of Alberta coals and their particular chemical and physical properties, the use of coals in the generation of power, and the upgrading and cleaning of coal, and has also studied briquetting, blending, abrasion loss, shatter and crushing strength, asphalt binders and dust-proofing of coal. Studies have been made of glass sands, salt, fertilizers, cement manufacture and brick and tile manufacture. (See also p. 424.)

The province from time to time has had commissions examine various aspects of the mining industry when it has considered that their findings would be of assistance in developing such industries. The province, together with the Canadian Association of Oil Well Drilling Contractors and the Western Canada Petroleum Association, maintains a detailed supervisory and safety training program concerned with the drilling of oil and gas wells. Of assistance also to mining companies and oil companies are the special deductions provided for in the Alberta Income Tax Act. These follow the parallel provisions in the Federal Income Tax Act.

British Columbia.—The Department of Mines and Petroleum Resources of British Columbia provides the following services: detailed geological mapping as a supplement to the work of the Geological Survey of Canada; free assaying and analytical work for prospectors registered with the Department; assistance to the prospector in the field by departmental engineers and geologists; grub-stakes, limited to a maximum of \$700, for prospectors; assistance in the construction of mining roads and trails; and inspection of mines to ensure safe operating conditions.

Section 3.—Mining Legislation

Federal Mining Laws and Regulations.—As of Jan. 1, 1968, the mineral rights vested in the Crown in right of Canada are those situated in the Yukon Territory and the Northwest Territories, those in the islands of Hudson Bay and under Hudson Bay and Hudson Strait, and those under Canada's continental shelves. The Supreme Court of Canada in a recent decision made it clear that, as between Canada and the Province of British Columbia, the Crown in right of Canada owns and has legislative jurisdiction over lands, including mines and minerals and other natural resources, of the sea bed and sub-oil seaward from the ordinary low-water mark on the coast of the mainland and the several islands of British Columbia, outside the harbours, bays, estuaries and other similar

inland waters to the outer limits of the territorial sea of Canada, as defined in the Territorial Sea and Fishing Zones Act . . .". The Court also decided that the Federal Government owns and has legislative jurisdiction "in respect of the mineral and other natural resources of the sea bed and subsoil beyond that part of the territorial sea of Canada . . . to a depth of 200 meters or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the minerals and other natural resources of the said area".

In addition, the mineral rights of some small and usually isolated areas scattered throughout the provinces are vested in the Crown in the right of Canada. The Department of Energy, Mines and Resources is responsible for the disposition of mineral rights and for the administration and enforcement of regulations relating to minerals in Canada's offshore areas, other than those under Arctic coastal waters, in Hudson Bay, the islands in Hudson Bay, Hudson Strait and the small parcels above mentioned. The Department of Indian Affairs and Northern Development is similarly responsible in the Yukon Territory, the Northwest Territories and the offshore rights under Arctic coastal waters; this Department also acts as adviser to Indian bands in Indian reserves and is responsible for the administration and enforcement of the relevant regulations.

Mineral rights of Indian reserves in the provinces are also vested in the Crown in the right of Canada and are administered by the Indian Affairs Branch of the Department of Indian Affairs and Northern Development. The minerals on an Indian reserve may be developed under the Indian Oil and Gas Regulations or the Indian Mining Regulations for the benefit of the Band of Indians having rights to the reserve, only after the Band has given approval by referendum. Indian Band Councils are encouraged to take a share of responsibility in the management of their mineral resources.

Mining exploration is carried out in the Yukon Territory in accordance with the provisions of the Yukon Quartz Mining Act and the Yukon Placer Mining Act; in the Northwest Territories, including Arctic coastal waters, operations are governed by the Canada Mining Regulations 1961 as amended. There are also the Territorial Dredging Regulations, Territorial Coal Regulations and Territorial Quarrying Regulations common to both territories. In the Yukon Territory, mining rights may be acquired by staking claims under the appropriate Acts or Regulations. A one-year lease may be obtained to prospect for the purposes of placer mining, renewable for two additional periods of one year each; a 21-year lease, renewable for a like period, may be obtained under the Yukon Quartz Mining Act.

Under the Canada Mining Regulations, a prospector's licence is required. Staked claims must be converted to lease or relinquished within ten years. In certain areas, a system of exploration by permit over large areas is allowed. Any individual over 18 years of age or any joint-stock company incorporated or licensed to do business in Canada may hold a prospector's licence. No lease will be granted to an individual unless the Minister of the Department involved is satisfied that the applicant is a Canadian citizen and will be the beneficial owner of any interest acquired under such lease; no lease will be granted to a corporation unless the Minister is satisfied that at least 50 p.c. of the issued shares of the corporation are owned by Canadian citizens or that the shares of the corporation are listed on a recognized Canadian stock exchange and that Canadians will have the opportunity of participating in the financing and ownership of the corporation. Any new mine beginning production after the Canada Mining Regulations came into force in 1961 will not be required to pay royalties for a period of 36 months, starting from the day the mine comes into production. Production date is established as the date determined under the provisions of the Income Tax Act.

An exploration assistance fund for petroleum and other minerals in the Yukon and Northwest Territories was established by the Federal Government in 1966. Initially limited to \$3,000,000 per year, the fund may provide 40 p.c. of the cost of approved exploration programs. Assistance is available only to Canadian citizens or companies incor

porated in Canada. Named the Northern Mineral Exploration Program, it is designed to encourage investment from additional Canadian sources previously not attracted to investment in northern exploration operations.

Oil and Gas Legislation.—The Canada Oil and Gas Land Regulations and the Canada Oil and Gas Drilling and Production Regulations, issued pursuant to the Territorial Lands Act and the Public Lands Grants Act regulate the disposition of oil and gas rights and regulate exploration and development in the Yukon Territory, the Northwest Territories and the offshore areas of the continental shelves, but not under lands within any provinces. Only subsurface rights and those beneath the sea bed are granted. When required, surface rights are negotiated separately. An exploratory permit may be granted, depending on the area covered thereby, for a term of three, four, six or eight years; a permit is renewable for one-year periods up to six times by the Chief of the Resources Division, Northern Administration Branch, Department of Indian Affairs and Northern Development and further renewals may be granted by the Minister. Leases, which are renewable if oil or gas is still able to be produced, must conform to prescribed land patterns but must not exceed 50 p.c. of the area of an exploratory permit area.

An oil and gas exploratory permit may be issued to any individual over 21 years of age or to any joint-stock company incorporated or licensed to do business in Canada, or incorporated in any province of Canada. No oil and gas lease granted to a permittee will be issued to an individual unless the Minister of the Department involved is satisfied that the applicant is a Canadian citizen and will be the beneficial owner of any interest acquired under such lease, or to a corporation unless the Minister is satisfied that at least 50 p.c. of the issued shares of the corporation are beneficially owned by persons who are Canadian citizens or that the shares of the corporation are listed on a recognized Canadian stock exchange, and that Canadians will have an opportunity of participating in the financing and ownership of the corporation.

Provincial Mining Laws and Regulations.*—In general, all Crown mineral lands lying within the boundaries of the several provinces (with the exception of those within Indian reserves, National Parks and other lands which are under the jurisdiction of the Federal Government) are administered by the respective provincial governments. The exception is Quebec where all mineral lands except those granted to individuals in the townships prior to 1880 are administered by the province; also mining rights on federal lands in Quebec are administered by the province.

The granting of land in any province except Ontario and Nova Scotia no longer carries with it mining rights upon or under such land. In Ontario, mineral rights are expressly reserved if they are not to be included. In Nova Scotia, no mineral rights belong to the owner of the land except those pertaining to gypsum and building materials, and the Governor in Council may declare deposits of either limestone or building materials to be minerals. Such declaration is to be based on economic value or to serve the public interest. In such case, the initial privilege of acquiring the declared minerals lies with the owner of the surface rights who must then conform with the requirements of the Mines Act. In Newfoundland, mineral and quarry rights are expressly reserved. Some early grants in British Columbia, Alberta, Saskatchewan, Manitoba, New Brunswick, Quebec and Newfoundland also included certain mineral rights. Otherwise, mining rights must be obtained separately by lease or grant from the provincial authority administering the mining laws and regulations. Mining activities may be classified as placer, general minerals (or veined minerals and bedded minerals), fuels (coal, petroleum and gas) and quarrying. Provincial mining regulations under these divisions are summarized in the following paragraphs.

Placer.—In most provinces in which placer deposits occur there are regulations defining the size of placer holdings, the terms under which they may be acquired and sold, and the royalties to be paid.

* Compiled from material supplied by the provincial governments.

General Minerals.—These minerals are sometimes described as quartz, lode, or minerals in place. With the exception of British Columbia, the most elaborate laws and regulations apply in this division. In all provinces except Alberta and Saskatchewan, a prospector's or miner's licence, valid for one year, must be obtained to search for mineral deposits, the licence being general in some areas but limited in others; a claim of promising ground of specified size may then be staked. In Manitoba and British Columbia a licence is required only for staking and in British Columbia any number of dispositions may be staked under one licence. A claim must be recorded within a time limit and payment of recording fees made, except in Quebec where no fees are required. Work to a specified value per annum must be performed upon the claim for a period of up to ten years except in Quebec where a development licence may be renewed on a yearly basis; also in Saskatchewan there is no work commitment in the first year of the claim. There is no time limit in British Columbia but \$500 assessment work, of which a survey may represent two fifths, must be performed and recorded before a lease may be obtained. In Quebec, a specified number of man-hours of work must be performed and the excess may be carried forward for renewal of licence. The taxation applied most frequently is a percentage of net profits of producing mines or royalties. In Saskatchewan, subsurface mineral regulations covering non-metallics stipulate the size and type of dispositions that may be made in order to maintain the disposition in good standing, provide for fees, rentals and royalties, and set out generally the rights and obligations of the disposition holder.

Fuels.—In provinces where coal occurs, the size of holdings is laid down together with the conditions of work and rental under which they may be held. In Quebec, the search for and development of petroleum and natural gas may be carried out under a prospecting or search permit followed by a working lease; the search permit covers a period of five years and an acreage of not over 60,000 acres, whereas the lease extends over a 20-year period and an acreage not over half the acreage of the permit. In Nova Scotia, mining rights to certain minerals, including petroleum, occurring under differing conditions may be held by different licensees. Provision is sometimes made for royalties. Acts or regulations govern methods of production. In the search for petroleum and natural gas, an exploration permit or reservation is usually required; however, in Manitoba, Saskatchewan, Alberta and British Columbia leases usually follow the exploration reservation whether or not any discovery of oil or gas is made. In Manitoba and Alberta, exploration costs are applicable in part on the first year's lease rental and, in British Columbia and Saskatchewan, credit is given for up to 24 months' rental, having regard to the amount of excess credit established. In other provinces, the discovery of oil or gas is usually prerequisite to obtaining a lease or grant of a limited area, subject to carrying out drilling obligations and paying a rental, a fee, or a royalty on production.

Quarrying.—Regulations under this heading define the size of holdings and the terms of lease or grant. In Nova Scotia, sand deposits of a quality suitable for uses other than building purposes and limestone deposits of metallurgical grade belong to the Crown; gypsum quarries belong to the owner of the property. On Quebec public lands and on those granted to individuals after Jan. 1, 1966, the stone, sand and gravel, like other building materials, belong to the Crown; quarries located on land granted to individuals prior to 1966 remain in the possession of the owners of the surface; the right to exploit all building materials except sand and gravel may be acquired by ordinary staking-out and the right to work sand and gravel beds is set by regulation. In Saskatchewan, sand and gravel on the surface and all sand and gravel obtainable by stripping off the overburden or other surface operation belong to the owner of the surface of the land. In Alberta, sand, gravel, clay and marl recovered by excavating from the surface belong to the owner of the surface of the land.

Copies of mining legislation including regulations and other details may be obtained from the provincial authorities concerned.

Section 4.—World Production of Certain Metallic Minerals and Fuels

Table 33 shows the production of certain metallic minerals and fuels in the different countries of the world for the year 1965. These figures are taken from the *United Nations Statistical Yearbook 1966* which presents production figures for a much more extensive list of mining and quarrying industries. The 1965 figures are provisional and have been converted from kilograms to ounces troy for gold, from metric tons to ounces troy for silver, and from metric tons to short tons for the other metals and fuels shown.

33.—World Production of Certain Metallic Minerals and Fuels, 1965

NOTE.—Where dashes occur throughout this table they indicate that no figures were given in the *United Nations Statistical Yearbook* either because there was no production or because the quantity was not available.

Country	Gold	Silver	Copper	Iron	Lead	Zinc	Coal	Crude Petroleum
	'000 oz. t.	'000 oz. t.	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Afghanistan.....	—	—	—	—	—	—	160.9	—
Albania.....	—	—	2.9	—	—	—	—	—
Algeria.....	—	—	1.1	1,804.5	11.5	40.9	49.6	29,190.3
Angola.....	—	—	—	561.1	—	—	—	722.0
Argentina.....	—	—	—	49.6	33.6	33.1	412.3	15,500.7
Australia.....	877.1	16,898.4	101.7	4,781.8	405.5	391.1	35,172.5	369.3
Austria.....	—	—	1.8	1,223.6	6.5	10.5	65.0	3,147.1
Bahrain.....	—	—	—	—	—	—	—	3,132.8
Belgium.....	—	—	—	29.8	—	—	21,810.3	—
Bolivia.....	—	4,115.3 ¹	5.2 ¹	—	19.3 ¹	15.1 ¹	—	477.3
Brazil.....	—	—	4.2	13,612.4	5.8	—	1,941.2	4,947.2
Britain.....	—	—	—	4,661.7	0.1	—	209,999.1 ²	92.6
Brunei.....	—	—	—	—	—	—	—	4,338.7
Bulgaria.....	—	—	33.0	644.9	110.3	87.7	608.5	252.4
Burma.....	—	1,700.8	0.1	2.2	18.6	8.4	—	597.5
Cameroon.....	0.9	—	—	—	—	—	—	—
Canada.....	3,606.0	32,272.5	507.9	24,047.3	291.8	822.0	11,588.6 ⁴	44,092.3
Central African Republic.....	—	—	—	—	—	—	—	—
Chile.....	73.8	3,272.9	805.3	8,549.5	1.3	1.2	1,743.9	1,825.4
China—	—	—	—	—	—	—	—	—
Mainland.....	—	—	99.2	—	110.2	110.2	—	—
Taiwan.....	32.2	—	1.7	—	—	—	5,571.1	20.9
Colombia.....	319.4	115.7	—	385.8	—	—	3,527.4	11,159.8
Congo—	—	—	—	—	—	—	—	—
Brazzaville.....	3.7	—	—	—	3.3	7.6	—	78.3
Democratic Republic of.....	66.3	1,536.8	318.1	—	—	129.4	125.7	—
Cuba.....	—	—	6.5	—	—	—	—	40.8
Cyprus.....	—	—	23.5 ¹	—	—	—	—	—
Czechoslovakia.....	—	—	—	797.0	15.4	—	30,568.2	211.6
Ecuador.....	11.4	70.7	—	—	—	—	—	424.4
Fiji Islands.....	109.1	—	—	—	—	—	—	—
Finland.....	18.0	581.9	35.5	472.9	8.0	88.3	—	—
France.....	—	—	—	21,324.2	17.9	21.3	56,601.5	3,293.7
Gabon.....	37.1	—	—	—	—	—	—	1,393.3
Germany—	—	—	—	—	—	—	—	—
Eastern.....	—	—	24.3	539.0	11.0	11.0	2,438.3	—
Federal Republic of.....	79.7	10,410.4	1.1	2,814.2	53.5	119.8	149,323.5	8,690.6
Ghana.....	760.2	—	—	—	—	—	—	—
Greece.....	—	144.7	—	—	—	—	—	—
Greenland.....	—	—	—	—	—	—	22.0	—
Guatemala.....	—	—	—	—	0.6	1.0	—	—
Guinea.....	—	—	—	330.7	—	—	—	—
Guyana.....	2.1	—	—	—	—	—	—	—
Haiti.....	—	—	4.4	—	—	—	—	—
Honduras.....	4.3	3,948.1 ¹	—	—	6.1 ¹	6.3 ¹	—	—
Hong Kong.....	—	—	—	82.7	—	—	—	—
Hungary.....	—	—	0.3	206.1	1.5	3.6	4,808.3	1,986.4
India.....	130.6	167.2	11.1	15,728.9	4.5	6.2	74,032.3	3,331.2
Indonesia.....	—	—	—	—	—	—	429.9	26,372.8
West Irian.....	—	—	—	—	—	—	—	63.9
Iran.....	—	—	—	33.1	18.7	15.4	303.1	103,015.4
Iraq.....	—	—	—	—	—	—	—	71,069.3
Ireland.....	—	—	—	—	2.9	1.7	196.2	—

For footnotes, see end of table, p. 622.

33.—World Production of Certain Metallic Minerals and Fuels, 1965—concluded

Country	Gold	Silver	Copper	Iron	Lead	Zinc	Coal	Crude Petroleum	
	'000 oz. t.	'000 oz. t.	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	
Israel.....	—	—	9.1	—	—	—	—	223.8	
Italy.....	—	1,093.1	1.1	448.6	38.8	125.0	428.8	2,457.1	
Japan.....	517.9	16,673.4	118.1	1,573.0	60.5	243.6	54,601.9	745.2	
Kenya.....	11.4	—	2.2	—	—	—	—	—	
Korea—	—	—	—	—	—	—	—	—	
North.....	—	—	13.2	—	66.1	115.7	16,424.4	—	
Republic of.....	62.8	434.0	1.0	405.7	4.9	7.8	11,296.5	—	
Kuwait.....	—	—	—	—	—	—	—	120,201.5	
Liberia.....	1.7	—	—	11,320.7 ¹	—	—	—	—	
Libya.....	—	—	—	—	—	—	—	64,457.7 ¹	
Luxembourg.....	—	—	—	2,087.8	—	—	—	—	
Madagascar.....	0.6	—	—	—	—	—	—	—	
Malaysia—	—	—	—	—	—	—	—	—	
East (Sarawak).....	2.6	—	—	4,310.0 ¹	—	—	—	54.0	
West.....	3.7	—	—		—	—	—	—	
Mexico.....	215.8	40,333.1	76.3	1,756.0	187.5	247.9	1,039.5	18,600.4	
Mongolia.....	—	—	—	—	—	—	1,091.3 ⁴	17.6	
Morocco.....	—	598.0	2.0	625.0	85.8	54.6	461.9	113.5	
Mozambique.....	—	—	—	—	—	—	262.4	—	
Netherlands.....	—	—	—	—	—	—	12,617.1	2,640.0	
Neutral Zone (jointly shared by Saudi Arabia and Kuwait).....	—	—	—	—	—	—	—	21,328.6	
New Caledonia.....	—	—	—	169.8	—	—	—	—	
New Guinea (Australia).. <td>32.5⁵</td> <td>19.3</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td>	32.5 ⁵	19.3	—	—	—	—	—	—	—
New Zealand.....	12.1	—	—	1.1	—	—	743.0	1.1	
Nicaragua.....	159.3	—	11.2	—	—	—	—	—	
Nigeria.....	0.1	—	—	—	0.7	—	815.7	14,923.1	
Norway.....	—	—	16.5	1,722.9	4.0	13.8	479.5	—	
Pakistan.....	—	—	—	8.8	—	—	1,356.9 ⁴	579.8	
Peru.....	98.0	41,281.6	195.6	4,561.4	162.1	—	92.6	3,396.2	
Philippines.....	435.5	932.4	69.1	966.7	0.1	2.3	104.7	—	
Poland.....	—	—	16.6	868.6	45.4	167.7	130,988.8	374.8	
Portugal.....	—	—	4.9	106.9	0.1	—	471.8	—	
Qatar.....	—	—	—	—	—	—	—	12,082.4	
Rhodesia.....	550.0	96.5	19.8	908.3	—	—	3,868.0	—	
Romania.....	—	—	—	824.5	16.5	—	6,653.6	13,857.2	
Saudi Arabia.....	—	—	—	—	—	—	—	111,369.8	
Sierra Leone.....	—	—	—	1,543.2 ¹	—	—	—	—	
South Africa.....	30,553.9	3,131.5	66.4	4,203.1	—	—	53,400.4	—	
South West Africa.....	—	—	41.4	—	—	—	—	—	
Spain.....	8.8	2,321.3	10.9	3,128.4	121.1	33.0	14,528.5	—	
Sudan.....	0.3	—	—	—	65.0	42.3	—	—	
Surinam.....	6.3	—	—	—	—	—	—	—	
Swaziland.....	1.6	—	—	—	—	—	—	—	
Sweden.....	—	4,954.4	17.2	19,413.9	75.9	87.0	65.0	61.7	
Switzerland.....	—	—	—	49.6	—	—	—	—	
Tanzania, United Repub- lic of.....	90.8	—	—	—	—	—	3.3	—	
Thailand.....	—	—	—	512.6	5.8	2.3	—	—	
Trinidad and Tobago....	—	—	—	—	—	—	—	7,620.3	
Trucial Oman.....	—	—	—	—	—	—	—	15,102.8	
Tunisia.....	—	32.2	—	671.3	17.4	4.2	—	—	
Turkey.....	—	—	31.7	965.6	5.1	9.8	4,839.1	1,688.7	
Uganda.....	—	—	19.0	—	—	—	—	—	
Union of Soviet Socialist Republics.....	—	—	826.7	98,074.8	407.9	454.2	471,658.1	267,738.2	
United Arab Republic....	—	—	—	280.0	—	—	—	7,150.7	
United States.....	1,675.5	38,998.9	1,351.8	55,564.2	301.2	611.1	523,910.9	424,330.3	
Venezuela.....	23.7	—	—	11,953.5	—	—	34.2	201,071.5	
Viet-Nam—	—	—	—	—	—	—	—	—	
North.....	—	—	—	—	—	—	3,858.1	—	
Republic of.....	—	—	—	—	—	—	82.7	—	
Yugoslavia.....	—	4,147.4	69.0	996.5	117.2	73.9	1,314.0	2,274.1	
Zambia.....	5.2	848.8	766.9	—	37.6	66.1	—	—	

¹ Exports.
Papua.² Excludes Northern Ireland.³ DBS figures.⁴ Includes lignite.⁵ Includes

CHAPTER XIV.—FISHERIES AND FURS

CONSPECTUS

	PAGE		PAGE
Part I.—Fisheries.....	623	Subsection 2. The Provincial Govern- ments.....	639
SECTION 1. FISHERIES RESOURCES OF CANADA.....	623	Part II.—Furs.....	647
SECTION 2. COMMERCIAL FISHING AND MARKETING, 1966.....	624	SECTION 1. THE FUR INDUSTRY.....	647
SECTION 3. FISHERY STATISTICS.....	626	SECTION 2. FUR STATISTICS.....	649
Subsection 1. Primary Production.....	626	Subsection 1. Fur Production and Trade..	649
Subsection 2. Fish Products.....	629	Subsection 2. The Fur Processing In- dustry.....	653
SECTION 4. GOVERNMENTS AND THE FISHERIES.....	632	SECTION 3. PROVINCIAL AND TERRITORIAL FUR RESOURCE MANAGEMENT.....	654
Subsection 1. The Federal Government..	633		

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

PART I.—FISHERIES*

Section 1.—Fisheries Resources of Canada

Canada's fisheries resources are harvested from two of the greatest oceans and the most extensive bodies of fresh water in the world. Sea fishing is carried out by Canadians primarily in the northwest Atlantic and northeast Pacific within close range of home ports, although some craft venture as far afield as the Bering Sea and the Caribbean. Extensive although not inexhaustible, the living resources of the oceans contribute up to 95 p.c. of the nation's fisheries production; the remainder comes from freshwater stocks in the Great Lakes and other inland waterways. More than 150 species of fish and shellfish are commercially utilized, the most important being groundfish, salmon, lobsters and other shellfish, halibut and herring. The country's fishing industry represents an investment of more than \$200,000,000 in vessels and catching gear, and of tens of millions more in shore facilities. It provides employment income for approximately 80,000 fishermen, 30,000 of them full-time operators, and for 20,000 processing plant workers. Two thirds of the industry's yearly output, which in 1967 was valued at a record \$340,000,000, is destined for world markets.

In the northwest Atlantic, where total fish landings increased by approximately 60 p.c. (from 1,847,000 tons to 2,950,000 tons) between 1954 and 1964, Canada's catch also advanced, although not so spectacularly (33 p.c. from 634,000 tons to 844,000 tons). Groundfish, especially cod, haddock and redfish, are harvested in quantity by fleets from Canada and 15 or more other nations in the northwest Atlantic. Other important species include halibut and other flat-fishes, herring, mackerel, turbot, hake, cusk, pollock, salmon, swordfish and tuna. Shellfish of high market value include lobsters, scallops and clams. Experimental fishing is conducted to probe the potential for commercial fishing of such marine species as crabs, prawns and capelin.

* Sections 1 and 2, and part of Subsection 1 of Section 4 were prepared by the Information and Consumer Service, Department of Fisheries, Ottawa.

Salmon, halibut and herring are the principal species harvested in the Pacific Coast fisheries although a variety of other fish and shellfish are also taken. The catches of the five Pacific salmon—sockeye, chinook, coho, chum and pink—are regulated for conservation purposes, and extensive biological and engineering facilities are maintained in order to safeguard and develop these important stocks. Halibut, which are fished in the Gulf of Alaska and the Bering Sea, are also closely protected by regulations to maintain stocks at optimum levels. Herring are plentiful and are landed in quantity for reduction into fish meal and oil. Atlantic herring catches surpassed those on the Pacific Coast for the first time in 1966, and the combined landings amounted to almost one third of the total Canadian fish catch. Although much effort has been put into the fishery for Pacific groundfish, there appears to be considerable scope for future expansion.

The most important species taken in Canada's freshwater fisheries include whitefish, perch, pickerel, lake trout, herring, pike, suckers, sauger and smelt. Smaller and coarser species have become plentiful in the Great Lakes since native trout stocks were decimated by the parasitic sea lamprey, but some recovery is indicated as effective control of lamprey is achieved.

Section 2.—Commercial Fishing and Marketing, 1966

During 1966, landings in the Canadian commercial fisheries achieved records in both quantity and value. The total catch of 2,600,000,000 lb. had a value to fishermen of \$177,000,000, representing increases over 1965 of 8 p.c. in quantity and 10 p.c. in value. Estimated conservatively, the marketed value of fishery products exceeded \$340,000,000. Both the Atlantic and Pacific regions had record results but only minor changes occurred in the freshwater fisheries.

In British Columbia, salmon landings of 170,000,000 lb. were higher than expected and fishermen were paid a record \$38,600,000 for their catch. Both net and troll fishermen reported high returns and the catch of coho, at 38,700,000 lb., was valued at \$11,900,000, the highest on record. The canned salmon pack reached 1,819,000 cases and was the largest since 1958. Halibut landings were 3 p.c. lower than in 1965 but the average price moved up from 34 cents a pound to 35.8 cents, and brought the fishermen a gross return of \$11,500,000. On the other hand, herring landings fell sharply from 444,000,000 lb. in 1965 to 307,600,000 lb. in 1966; as in 1965, a strike by fishermen, this time late in the year, was a major contributing factor to the lower catch. Landings of groundfish, other than halibut, reached the record level of 49,300,000 lb., an increase of 25 p.c. over 1965. The value to fishermen of groundfish landings was \$3,400,000.

In the Atlantic region, landings of 1,900,000,000 lb. had a value to fishermen of \$98,000,000, increases over 1965 of 230,000,000 lb. and \$400,000. All provinces except Quebec recorded increased landings and landed values. The catches of flounders, haddock and redfish were higher than in 1965 although most of the increase was accounted for by the herring catch which amounted to 550,000,000 lb. compared with 405,000,000 lb. in the previous year. The higher landed value of these species, however, was almost totally offset by lower quantities and reduced prices of lobsters and scallops. Inshore fishermen in some areas, notably lobster fishermen in the Northumberland Strait and cod fishermen on the Quebec north shore, experienced smaller catches in 1966.

In Newfoundland, landings reached 665,100,000 lb., valued to the fishermen at \$26,300,000. A relatively poor cod trap fishery was balanced by higher landings from the growing deepsea fleet and landings of most other groundfish species, except haddock, were substantially higher than in 1965. Herring landings more than doubled in volume and value, reaching 63,900,000 lb. worth \$733,000. The catch in Nova Scotia, boosted by large gains in herring landings, at 695,000,000 lb., was more than 100,000,000 lb. higher than in 1965 but, because of lower shellfish landings and a decrease in prices, the value to fishermen, at \$45,400,000, was \$3,000,000 lower than in the previous year. Heavier landings in New

Brunswick increased the total catch in that province by 45,000,000 lb. to 335,000,000 lb. and, although the value of shellfish landings declined, the total value to fishermen of all species rose by \$447,000 to \$10,900,000. In Prince Edward Island increases in groundfish and mackerel landings exceeded decreases in shellfish landings and the total catch was 58,000,000 lb. compared with 46,000,000 lb. in 1965 but the value to fishermen declined \$820,000 to \$6,000,000. In Quebec, lower cod and herring landings were just about offset by higher redfish and flounder landings and there was a drop of less than 1 p.c. in total volume; on the other hand, the landed value of all species was slightly higher than in 1965.

The value of output of the Canadian fishing industry has been rising steadily during the past few years, particularly since 1960. The increase during the 1960-66 period in the value of processed fish was from \$200,000,000 to an estimated \$340,000,000, the rise reflecting in part higher product prices and in part an increased output of some major products, notably those from the groundfish and scallop fisheries. In the same period, the value of Canadian fishery exports to all countries increased from \$138,000,000 to \$219,000,000. Thus, the value of products increased 70 p.c. and the value of exports increased 60 p.c.

The United States has always been the main outlet for the products of the Canadian fishing industry. In 1966 about 69 p.c. of the total exports moved to that market, a slightly lower proportion than in 1965, although the total value of those exports, at \$150,600,000, was slightly above that of the previous year. Sales to Britain, at \$21,400,000, were at the same level as in 1965; more frozen salmon and cod blocks went to that market but less canned salmon. There was an increase of nearly 60 p.c. in exports to France, which amounted to \$6,200,000 in 1966, the main products responsible for the advance being frozen and canned salmon and frozen scallops. Jamaica and Puerto Rico are the other important markets for Canadian fishery products and sales to these countries in 1966 were, respectively, 27 p.c. and 36 p.c. higher than in 1965. The four countries mentioned took about 86 p.c. of the total Canadian exports, the remaining 14 p.c.—approximately \$30,000,000—going to many countries in all parts of the world.

Nearly 70 p.c. of total exports, by value, are in the form of fresh and frozen fish and shellfish, of which 88 p.c. goes to the United States and the remainder mainly to Western European countries. There was a serious price decline in the United States market for some products in the fall of 1966, particularly for Atlantic groundfish products; this was caused by larger than usual supplies of groundfish fillets and blocks available in that country, coupled with what may be a slackening in the rate of growth of consumption of fish sticks and portions.

Most of the freshwater fish (dressed and filleted), a good proportion of the Pacific halibut and salmon, and all the swordfish are also sold to the United States. The market for these products, with the exception of British Columbia halibut, was firm during 1966 and the prices were generally higher than in 1965. Small quantities of lobster in shell continue to be sold in France, Britain and Belgium but most of it goes to the United States. As a result of the small supply available in 1966, the total quantity exported was about 12 p.c. lower than in 1965 although the average price remained the same. Supplies of scallops were abundant in the United States market during 1966. Cold storage holdings had risen late in 1965 and imports from Canada were about 3,000,000 lb. heavier than in 1965, resulting in large inventories that kept prices depressed until late in the year. The average annual price fell from 68 cents a pound in 1965 to 50 cents in 1966. The main European markets for frozen fish are Britain and France and exports of Pacific halibut and salmon (coho) to those markets increased in terms of both quantity and value during the year.

The downward trend in the Canadian production of salted fish continued in 1966. The situation has been similar in the other main exporting countries—Norway and Iceland—although Norway reported an increase in production in 1966. On the whole, the demand

for salted fish was good during the year and prices firm. Canadian exports totalled 71,000,000 lb. compared with 75,000,000 lb. in 1965 and unit prices averaged 26 cents and 24½ cents a pound in the respective years. Sales to the Caribbean area, Canada's main market, were higher than in 1965 but those to the traditional Mediterranean markets dropped drastically from the already low level recorded in recent years.

Britain continued to dominate the market for canned salmon, particularly sockeye and coho, although sales to that market in 1966 were below those of 1965. Exports of canned sardines increased by some 10 p.c. in quantity and 16 p.c. in value. These two products—canned salmon and sardines—are shipped to many countries; in fact, Canadian canned salmon in 1966 was exported to 59 countries and canned sardines to 39 countries.

Section 3.—Fishery Statistics

The review of commercial fishing and marketing given in the preceding Section covers the situation in 1966 and contains estimated figures for that year. At the time of the preparation of this Chapter, however, the latest statistics available in detail for both the primary production and fish products were those for 1965 contained in the following Subsections.

Subsection 1.—Primary Production

The value of the 1965 catch of fish on the Atlantic Coast was at a very high level; it amounted to \$94,989,000, an increase of 13 p.c. over the 1964 value of \$84,117,000 and 25 p.c. over the five-year 1961-65 average of \$76,216,000. The lobster catch at \$26,632,000 was still the most valuable and cod was second at \$23,637,000.

For the fifth consecutive year, the value of the Newfoundland catch was substantially higher than that of the previous year. The value of landings of all species was \$23,176,000, of which cod accounted for \$13,460,000. Cod landings at 345,204,000 lb. were lighter than in 1964 as were those of haddock, but landings of redfish, turbot (Greenland halibut), plaice and greysole were considerably increased.

The value of fish and shellfish landings by Nova Scotia fishermen in 1965 reached a record \$48,194,000, an amount 18 p.c. above 1964. Lobster and scallops continued to be the most important species from the standpoint of income to the fishermen, having a landed value of \$13,602,000 and \$10,293,000, respectively. Cod was third at \$6,461,000, followed by haddock, swordfish, flounder and sole, pollock and halibut.

New Brunswick fishermen also landed a more valuable catch in 1965 than in 1964. Lobster, herring and cod were the major sources of income to the fishermen, accounting for \$7,307,000 of the total value of \$10,651,000. The herring catch, which has been increasing steadily from a low of 56,269,000 lb. in 1961, reached 182,806,000 lb. in 1965 compared with the five-year 1961-65 average of 125,900,000 lb.

Returns to Prince Edward Island fishermen in 1965 were \$6,825,000, 21 p.c. above the 1964 level. Lobsters, at \$5,177,000, made up 76 p.c. of the total and oysters, at \$399,000 were next in importance. The value of the Quebec landings increased to \$6,938,000 from \$5,894,000 in 1964 as a result of increased landings of cod, redfish, lobster and scallops.

The value of British Columbia landings in 1965 was \$47,435,000, down slightly from 1964. Annual fluctuations in the volume of salmon taken, which make up over half the total landings, materially affect the total value of the catch. Salmon landings in 1966 were 90,190,000 lb. valued at \$25,958,000 compared with 124,198,000 lb. valued at \$30,244,000 in the previous season. The 1965 catch of tuna at 348,000 lb. was higher than that in the previous year but still below the record catch of 487,000 lb. in 1962.

1.—Quantity and Value of Sea and Inland Fish Landed, by Province, 1961-65

NOTE.—Figures for the years 1918-60 are given in the corresponding table of previous Year Books beginning with the 1947 edition.

Province or Territory	1961	1962	1963	1964	1965
QUANTITY					
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	503,079	549,341	594,961	583,381	616,661
Prince Edward Island.....	36,664	37,630	38,464	41,015	46,241
Nova Scotia.....	439,662	435,903	427,127	514,703	592,350
New Brunswick.....	147,925	204,511	234,888	254,027	296,441
Quebec.....	109,174	133,443	132,773	133,733	145,176
Ontario.....	54,951	63,780	54,342	43,508	52,486
Manitoba.....	30,658	36,105	35,738	28,636	29,588
Saskatchewan.....	14,515	14,999	14,089	14,306	14,933
Alberta.....	11,317	9,025	8,509	12,751	8,514
British Columbia.....	635,550	686,914 ¹	772,859 ¹	712,613	626,161
Yukon and Northwest Territories ²	5,676	6,544	6,347	6,052	5,670
Totals.....	1,989,171	2,178,199	2,320,097	2,344,725	2,434,221
Sea Fish.....	1,866,098	2,041,168	2,196,270	2,234,553	2,314,775
Inland Fish.....	123,073	137,031	123,827	110,172	119,446
VALUE					
	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	14,717	17,222	20,086	21,978	23,176
Prince Edward Island.....	4,173	4,361	4,462	5,642	6,825
Nova Scotia.....	27,152	30,928	35,145	40,977	48,194
New Brunswick.....	7,699	9,182	9,320	10,277	10,651
Quebec.....	4,669	5,534	5,879	5,894	6,938
Ontario.....	5,746	5,341	5,498	5,222	6,402
Manitoba.....	3,174	4,229	4,356	3,720	4,370
Saskatchewan.....	1,385	1,478	1,300	1,490	1,734
Alberta.....	883	714	676	799	677
British Columbia.....	38,778	49,067 ¹	40,466 ¹	48,296	47,435
Yukon and Northwest Territories ²	675	859	796	833	994
Totals.....	109,051	128,915	127,984	145,128	157,396
Sea Fish.....	96,600	115,570	114,687	132,413	142,424
Inland Fish.....	12,451	13,345	13,297	12,715	14,972

¹ Includes halibut landed in United States ports.
only.

² Prior to 1964 figures are for Northwest Territories

2.—Quantity and Value of the Chief Commercial Fish Landed, 1964 and 1965

Area and Species	Quantity Landed		Value Landed	
	1964	1965	1964	1965
	'000 lb.	'000 lb.	\$'000	\$'000
Atlantic Coast				
Groundfish	1,021,392	1,106,601	40,195	44,399
Catfish.....	3,142	4,220	97	135
Cod.....	571,412	575,446	22,055	23,637
Flounder and sole.....	161,740	202,910	5,232	6,493
Haddock.....	106,311	92,933	6,228	6,054
Hake.....	18,299	12,456	570	355
Halibut.....	4,557	4,472	1,445	1,492
Pollock.....	56,957	51,461	1,832	1,868
Redfish.....	79,190	127,453	2,142	3,340
Other.....	19,784	35,250	594	1,025
Pelagic and Estuarial	383,507	474,367	10,888	11,638
Alewives.....	10,511	12,163	150	203
Herring.....	312,883	405,757	3,210	4,256
Mackerel.....	23,911	24,496	949	801
Salmon.....	4,531	4,623	2,072	2,221
Smelts.....	4,141	4,379	315	297
Swordfish.....	11,855	7,805	3,561	3,253
Other.....	15,975	15,144	631	607

2.—Quantity and Value of the Chief Commercial Fish Landed, 1964 and 1965—concluded

Area and Species	Quantity Landed		Value Landed	
	1964 '000 lb.	1965 '000 lb.	1964 \$'000	1965 \$'000
Atlantic Coast—concluded				
Molluscs and Crustaceans	90,823	86,223	32,621	38,556
Clams—				
Quahogs.....	221	199	13	12
Soft-shelled.....	2,911	2,981	158	186
Lobsters.....	41,881	40,522	24,244	26,632
Oysters.....	3,828	3,487	461	532
Scallops.....	16,682	19,704	7,278	10,849
Other.....	25,300	19,330	467	345
Other¹	25,918	21,423	413	396
Totals, Atlantic Coast	1,521,940	1,688,614	84,117	94,989
Pacific Coast				
Groundfish	57,361	65,060	10,065	13,384
Cod.....	12,009	19,223	722	1,142
Halibut ²	33,292	32,973	8,309	11,112
Ling cod.....	3,797	4,413	384	457
Sablefish.....	947	977	187	203
Sole.....	6,317	6,667	420	430
Other.....	999	807	43	40
Pelagic and Estuarial	636,324	542,295	36,668	32,487
Herring.....	505,287	444,061	6,167	6,232
Salmon.....	124,198	90,190	30,244	25,958
Chum.....	23,914	6,644	3,061	824
Coho.....	28,638	33,157	9,255	11,107
Pink.....	36,447	22,696	4,063	2,683
Sockeye.....	22,922	16,203	8,257	6,015
Spring.....	12,093	11,356	5,546	5,306
Other.....	234	134	62	38
Other.....	6,839	8,044	257	297
Molluscs and Crustaceans	18,613	18,726	1,527	1,558
Clams, butter, little neck, razor, etc.....	1,575	2,097	59	106
Crabs.....	4,351	3,502	699	552
Oysters.....	11,509	11,301	588	612
Shrimps and prawns.....	1,052	1,755	161	281
Other.....	126	71	20	7
Other¹	315	80	36	6
Totals, Pacific Coast	712,613	626,161	48,296	47,435
Inland				
Freshwater Fish	107,017	112,834	12,475	14,589
Bass.....	1,836	2,734	282	419
Catfish.....	1,244	1,162	202	199
Herring, lake (cisco).....	1,993	1,603	63	55
Perch.....	10,537	21,352	1,805	2,654
Pickarel (yellow).....	11,652	9,717	2,916	3,143
Pike.....	8,073	7,726	396	439
Saugers.....	4,442	4,109	917	1,303
Sturgeon.....	438	340	227	225
Trout.....	3,384	3,176	464	553
Tullibee.....	13,778	8,542	835	625
Whitefish.....	22,954	24,236	3,459	3,896
Other.....	26,686	28,137	909	1,078
Other³	3,155	6,612	240	383
Totals, Inland	110,172	119,446	12,715	14,972
Grand Totals	2,344,725	2,434,221	145,128	157,396

¹ Includes livers and scales.
fish caught inland.² Includes landings by Canadian fishermen in United States ports.³ See

3.—Persons Employed in the Primary Fishing Industry, by Province, 1963-65

Province or Territory	Sea Fisheries			Inland Fisheries		
	1963	1964	1965	1963	1964	1965
	No.	No.	No.	No.	No.	No.
Newfoundland.....	21,407	22,615	21,701	—	—	—
Prince Edward Island.....	3,372	3,329	3,566	—	—	—
Nova Scotia.....	13,467	13,353	14,049	—	—	—
New Brunswick.....	5,833	5,790	6,102	144	150	139
Quebec.....	3,674	3,512	3,917	658	781	747
Ontario.....	—	—	—	3,271	2,952	2,544
Manitoba.....	—	—	—	5,837	5,671 ^r	5,440
Saskatchewan.....	—	—	—	1,827	2,010	2,000
Alberta ¹	—	—	—	5,117	4,211	4,507
British Columbia.....	16,624	13,300	13,000	—	—	—
Northwest Territories.....	—	—	—	453	438	412
Totals.....	64,377	61,879	62,335	17,307	16,213^r	15,789

¹ Licences issued.

Subsection 2.—Fish Products

According to commodity surveys conducted by the Dominion Bureau of Statistics, the value of sea and inland fish products produced at all industrial levels, including the value to fishermen, amounted to \$315,745,000 in 1965; this was an increase of 7.2 p.c. over 1964 and the highest amount on record. Most of the increase over 1964 took place in the Atlantic Provinces.

4.—Value of All Products of the Fisheries, by Province, 1961-65

NOTE.—Figures for the years 1917-60 are given in the corresponding table of previous Year Books beginning with the 1922-23 edition.

Province or Territory	1961	1962	1963	1964 ^r	1965
	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	33,119	38,883	43,797	45,291	52,849
Prince Edward Island.....	6,046	6,403	6,608	8,455	9,592
Nova Scotia.....	54,689	67,380	77,721	87,339	91,626
New Brunswick.....	26,379	33,087	33,424	32,403	46,237
Quebec.....	8,131	10,625	10,821	11,412	12,881
Ontario.....	6,464	6,009	6,192	5,875	7,202
Manitoba.....	6,214	7,979	7,563	6,888	7,321
Saskatchewan.....	3,166	3,115	2,711	3,082	3,322
Alberta.....	1,701	1,234	1,125	1,222	1,128
British Columbia.....	78,758	100,057 ¹	80,114 ¹	97,942	89,872
Northwest Territories.....	1,179	1,231	1,330	1,215	1,411
Totals².....	222,879	260,986	260,311	294,654	315,745
Saltwater products.....	203,568	240,694	240,719	275,720	294,530
Freshwater products.....	19,311	20,292	19,592	18,934	21,215

¹ Includes landings by Canadian fishermen in United States ports. ² Totals are lower than the sum of provincial totals because duplications resulting from intershipments between provinces are removed.

**5.—Marketed Value of All Products of the Fisheries,¹ by Area and Species,
1964 and 1965**

Area and Species	1964	1965
	\$'000	\$'000
Atlantic Coast		
Groundfish	93,702	109,455
Catfish.....	318	329
Cod.....	46,084	53,671
Flounder and sole.....	12,104	17,100
Haddock.....	15,432	11,684
Hake.....	1,115	907
Halibut.....	1,836	1,907
Pollock.....	4,849	4,534
Redfish.....	4,869	8,309
Other.....	7,095	11,014
Pelagic and Estuarial	26,727	30,901
Alewives.....	269	231
Herring.....	5,136	6,339
Mackerel.....	1,618	2,132
Salmon.....	3,608	2,676
Sardines.....	7,415	11,553
Smelts.....	387	541
Swordfish.....	3,700	3,168
Other.....	4,594	4,261
Molluscs and Crustaceans	51,239	57,665
Clams—		
Quahaugs.....	39	19
Soft-shelled.....	127	232
Lobsters.....	36,279	44,092
Oysters.....	594	827
Scallops.....	12,564	10,909
Other.....	1,636	1,586
Other	6,110	6,637
Totals, Atlantic Coast	177,778	204,658
Pacific Coast		
Groundfish	12,947	16,264
Cod.....	1,187	1,853
Halibut ²	10,103	12,607
Ling cod.....	569	724
Sablefish.....	273	321
Sole.....	662	661
Other.....	153	98
Pelagic and Estuarial	75,259	64,415
Herring.....	11,562	11,750
Salmon.....	63,045	52,073
Chum.....	7,197	2,288
Coho.....	16,377	19,793
Pink.....	12,553	9,047
Sockeye.....	18,231	12,873
Spring.....	7,662	6,958
Other.....	1,025	1,154
Other.....	652	592
Molluscs and Crustaceans	2,642	2,758
Clams, butter, little neck, razor, etc.....	190	295
Crabs.....	1,439	1,145
Oysters.....	650	706
Shrimps and prawns.....	312	595
Other.....	51	17
Other	7,094	6,435
Totals, Pacific Coast	97,942	89,872

¹For footnotes, see end of table.

**5.—Marketed Value of All Products of the Fisheries,¹ by Area and Species,
1964 and 1965—concluded**

Area and Species	1964	1965
	\$'000	\$'000
Inland		
Freshwater Fish	18,262	20,390
Bass.....	349	499
Catfish.....	218	215
Herring, lake (cisco).....	71	62
Perch.....	2,070	3,063
Pickeral (yellow).....	4,353	4,577
Pike.....	1,042	1,025
Saugers.....	1,624	1,965
Sturgeon.....	242	242
Trout.....	850	910
Tullibee.....	1,066	846
Whitefish.....	5,624	5,876
Other.....	753	1,110
Other	672	825
Totals, Inland	18,934	21,215
Grand Totals	294,654	315,745

¹ Includes value of livers and liver products, States ports.

² Includes landings by Canadian fishermen in United States ports.

The annual output of canned salmon fluctuates considerably with the extent of the catch, as is shown in Table 6. This product has traditionally been the most important of the industry, but the demand for Atlantic Coast frozen groundfish fillets and blocks has been rising so rapidly that the value of the Atlantic products has been in first place since 1963.

6.—Pacific Coast Production of Canned Salmon, 1963-65

Species	1963		1964		1965	
	Quantity	Value	Quantity	Value	Quantity	Value
	cases ¹	\$'000	cases ¹	\$'000	cases ¹	\$'000
Chum.....	119,190	2,547	232,722	5,010	65,216	1,562
Coho.....	157,481	5,478	204,732	8,179	295,284	11,673
Pink.....	757,453	17,863	464,107	12,142	287,926	8,499
Sockeye.....	158,375	8,325	343,358	18,088	245,798	12,792
Spring.....	10,000	230	9,127	224	18,892	511
Steelhead.....	772	21	1,262	34	844	25
Totals	1,203,271	34,464	1,255,308	43,677	913,960	35,062

¹ 48 lb.

7.—Atlantic Coast Production of Frozen Fillets and Fish Blocks, 1963-65

Area and Species	1963 ^r		1964 ^r		1965	
	Quantity	Value	Quantity	Value	Quantity	Value
	'000 lb.	\$'000	'000 lb.	\$'000	'000 lb.	\$'000
Newfoundland	77,827	18,900	82,020	19,498	104,131	26,829
Cod.....	47,359	11,051	50,141	10,799	57,624	13,876
Haddock.....	4,225	1,230	3,217	907	1,802	550
Redfish.....	13,093	2,920	11,223	2,559	16,208	3,831
Flatfish.....	12,075	3,469	16,334	4,965	23,916	7,188
Other.....	1,075	230	1,105	268	4,581	1,384
Maritimes	81,345	19,921	93,867	24,658	103,691	29,764
Cod.....	30,202	6,630	30,663	7,250	38,352	10,661
Haddock.....	17,542	5,242	25,541	8,055	17,572	5,934
Redfish.....	6,172	1,536	4,418	1,086	7,654	2,029
Flatfish.....	14,003	4,294	16,844	5,359	20,995	6,797
Other.....	13,426	2,219	16,401	2,908	19,118	4,343
Quebec	16,442	3,484	16,794	3,461	20,253	4,636
Cod.....	12,010	2,417	10,121	2,043	10,327	2,494
Redfish.....	2,259	491	5,198	1,053	7,451	1,565
Flatfish.....	1,603	437	979	247	1,773	449
Other.....	570	139	496	118	702	128
Totals, Atlantic Coast	175,614	42,305	192,681	47,618	228,075	61,229
Cod.....	89,571	20,098	90,925	20,092	108,303	27,031
Haddock.....	21,767	6,472	28,758	8,962	19,374	6,484
Redfish.....	21,524	4,947	20,839	4,698	31,313	7,425
Flatfish.....	27,681	8,200	34,157	10,571	46,684	14,434
Other.....	15,071	2,588	18,002	3,295	24,401	5,855

Section 4.—Governments and the Fisheries

Under the British North America Act, the Federal Government has full legislative jurisdiction over the coastal and inland fisheries of Canada. The Federal Parliament therefore enacts all laws for the protection, conservation and development of the fisheries and responsibility for the administration and enforcement of these laws is vested in the federal Department of Fisheries. In some provinces, however, this administration has been delegated, by arrangement, to provincial agencies.

Specifically, the federal Department of Fisheries administers all tidal or sea fisheries except those of the Province of Quebec, and also administers the freshwater or non-tidal fisheries of the four Atlantic Provinces, the Yukon Territory and the Northwest Territories. The Provinces of Ontario, Manitoba, Alberta and Saskatchewan administer their own freshwater fisheries and in British Columbia the provincial government controls freshwater species but the Federal Government is responsible for marine and anadromous species. Administration of the fisheries of National Park areas throughout Canada is the responsibility of the Canadian Wildlife Service, Department of Indian Affairs and Northern Development.

Federal-Provincial Relations.—The mutual interest of federal and provincial governments in fisheries problems is recognized in the undertaking of joint studies and programs, frequently on a regional basis. Regional committees established in recent years have brought together representatives of all governments concerned for periodic discussion. Four groups have evolved: the Federal-Provincial Atlantic Fisheries Committee consisting of representatives of the Federal Government and of the Governments of New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island and Quebec; the Federal-Provincial Committee for Ontario Fisheries; the Federal-Provincial Prairie Fisheries Committee

comprising representatives of the Federal Government and of the Governments of Alberta, Manitoba and Saskatchewan; and the Federal-Provincial British Columbia Fisheries Committee.

Members of the Committees are the Deputy Minister of Fisheries of Canada and the Deputy Ministers of provincial departments responsible for fisheries. Sub-committees make recommendations for industrial development, research and marketing problems. The main committee in each case co-ordinates, where practicable, all activities in the respective fields of responsibility of its members and suggests to the respective governments means of carrying out fisheries programs and projects of common concern. These include the development of methods and techniques in the catching of fish and of shore and plant facilities, and studies of the economics of fisheries to ensure that any proposed program of development is soundly based.

Co-operation between the federal Department of Fisheries and the provinces has taken the form of cost-sharing arrangements on joint projects. Legislation enacted in 1966 grants to the federal Department of Fisheries further powers to enter into such agreements or purposes of modernizing, mechanizing and diversifying the nation's fisheries. The Fisheries Development Act (SC 1966, c. 18), approved by the House of Commons on Apr. 25, 1966, and given Royal Assent on May 12, 1966, served to streamline the operations of the Department by incorporating several of the development activities undertaken under earlier legislation. It empowers the Minister of Fisheries to undertake projects "(a) for the more efficient exploitation of fishery resources and for the exploration for and development of new fishery resources and new fisheries; (b) for the introduction and demonstration to fishermen of new types of fishing vessels and fishing equipment and of new fishing techniques; and (c) for the development of new fishery products and for the improvement of the handling, processing and distribution of fishery products". The Act authorizes the Minister to enter into cost-sharing agreements with provinces, with private companies and with individuals or co-operatives. Financial assistance may be given for the construction and equipment, or modification, of commercial cold storages and mechanically refrigerated wait-freezing facilities to be used for the preservation of fishery products, and for the construction and equipment of fishing vessels. The Act also authorizes the conduct of economic studies in conjunction with universities or other educational institutions and provides for the establishment of advisory committees to assist in the implementation of fisheries development programs.

Subsection 1.—The Federal Government

The work of the Federal Government in the conservation, development and general regulation of the nation's coastal and freshwater fisheries is performed by three agencies under the Minister of Fisheries:—

- (1) The federal Department of Fisheries with headquarters at Ottawa, Ont., and regional offices under Regional Directors at Vancouver, B.C., Winnipeg, Man., Quebec, Que., Halifax, N.S., and St. John's, Nfld.
- (2) The Fisheries Research Board of Canada with headquarters at Ottawa and biological, technological and oceanographic stations across Canada.
- (3) The Fisheries Prices Support Board with headquarters at Ottawa.

A brief outline of the functions of each of these agencies is given in this Subsection.

The Department of Fisheries.—Canada's federal fisheries service began with Confederation in 1867 but it functioned as a branch of other departments until 1930, when legislation was enacted to establish a separate Department of Fisheries. The chief responsibilities of the Department are, in brief: to conserve and develop Canada's primary fishery resources; to encourage the development of the fishing industry in the national economy; to inspect fish products, establish standards of quality and promote the maximum utilization of the fishery resources; and to develop a proper public understanding of the

resources and the industry. Services rendered by the Department have been revised and broadened with the times; increased attention has been paid in recent years to the development aspects of the fisheries. About 2,100 persons are employed by the Department, most of them in conservation, protection, inspection and administration duties in fishing areas across the country. The Ottawa headquarters staff numbers about 240.

The Conservation and Protection Service, through a force of Fishery Officers stationed in fishing areas, on patrol aircraft and aboard a fleet of 80 patrol vessels, is concerned with the administration and enforcement of regulations for the conservation of fish stocks and the protection of fisheries.

The Resource Development Service is responsible for the application of technical and scientific means for the cultivation and development of fish stocks by improvement of the freshwater environment of anadromous species, principally salmon and trout, artificial propagation of fish and shellfish in hatcheries, spawning channels, etc., and control of parasites and predators, including the Great Lakes sea lamprey.

The maintenance of quality standards by regular inspection of fish, processing plants and fishery products is the responsibility of the Inspection Service. Additional functions undertaken in 1967 include investigation and extension work in fish handling, processing, storage and distribution. Inspection personnel, through active participation in the international Codex Alimentarius Commission, contribute to the development of world trading standards for fishery products.

The Information and Consumer Service is responsible for informing the fishing industry, fishermen and the general public on activities of the Department through the distribution of printed material, films and filmstrips, and radio and television material. The Consumer Branch of the Service promotes the consumption of fishery products.

Increasing importance of international consultation and co-operation in fisheries was recognized in the formation in 1965 of the International Fisheries Service. An Assistant Deputy Minister to whom this Service reports is also concerned with jurisdictional matters, particularly in reference to territorial waters and fishing zones.

In 1967, as part of an expanding program directed toward development of fisheries, a new post of Director of Federal-Provincial Fisheries Arrangements was established to be responsible for co-ordinating discussions with provinces. Responsibility for program development in fish harvesting and production techniques is exercised by the Industry Development Service, which undertakes a wide range of projects of technical aid and advice to fishermen and the fishing industry, and provides financial support to provinces and the industry for development purposes.

The Economics Service is responsible for the assembly, analysis and interpretation of statistical data on the fisheries, and the conduct of studies and investigations in the primary fisheries and the processing and distribution of fishery products.

Programs of economic aid to fishermen and industry, including the Fishermen's Indemnity Plan, the Newfoundland Bait Service and the Salt Assistance Plan, are administered by the Special Programs Service. The Indemnity Plan, to insure vessels, fixed gear, shore installations and lobster traps, applies in the Maritimes, Newfoundland, Quebec, British Columbia and Ontario.

International Fisheries.—Recognizing the necessity for the orderly regulation of fisheries in international waters, Canada has long been a leading participant in international conferences, conventions and treaties upholding conservation principles. The federal Department of Fisheries assumes a major responsibility for the negotiation, revision and implementation of international fisheries treaties on behalf of the Government.

Canada. The Department is represented by one of its senior officers on each of seven international commissions established under the following conventions to which Canada is a party:—

- (1) the Convention between Canada and the United States for the preservation of the halibut fishery of the northern Pacific Ocean and Bering Sea;
- (2) the Convention between Canada and the United States for the protection, preservation and extension of the sockeye and pink salmon fisheries in the Fraser River system;
- (3) the International Convention for the High Seas Fisheries of the North Pacific Ocean between Canada, Japan and the United States;
- (4) the Interim Convention on Conservation of North Pacific Fur Seals between Canada, Japan, the Soviet Union and the United States;
- (5) the International Convention for the Northwest Atlantic Fisheries;
- (6) the Convention on Great Lakes Fisheries between Canada and the United States; and
- (7) the International Convention for the Regulation of Whaling.

The first international agreement contracted by Canada as an independent nation was a treaty negotiated with the United States in 1923 for the protection of halibut stocks of the Pacific Ocean. An international commission established under that treaty was given broader regulatory powers in subsequent conventions, most recently in 1953 when its name was changed to the International Pacific Halibut Commission.

The International Pacific Salmon Fisheries Commission has achieved much success toward rehabilitation of depleted salmon stocks in the Fraser River of British Columbia. Discussions were held in 1965 and 1966 between representatives of Canada and the United States to consider revision of the 1956 protocol which brought pink salmon of the convention area within the scope of the Commission's activities. Negotiations also took place during the same period and through 1967 in an endeavour to reach agreement on problems arising from the intermingling of salmon bound for rivers of northern British Columbia and southeastern Alaska.

Protection of the high seas fisheries of the North Pacific Ocean is the objective of the International North Pacific Fisheries Commission established under a convention ratified in 1953 by Canada, Japan and the United States. The Commission conducts co-ordinated scientific research programs and recommends conservation measures to be undertaken by the contracting parties.

Fur seal stocks of the North Pacific and its adjacent seas are protected by the Interim Convention on Conservation of North Pacific Fur Seals which was ratified in 1957 by Canada, Japan, the Soviet Union and the United States, and amended by a protocol in 1964. This convention was preceded by an international treaty signed in 1911 which prohibited the killing of fur seals at sea—a measure which, aided by careful management programs, made possible the restoration of depleted seal herds. At the present time, under the terms of the convention, Canada and Japan each receives annually 15 p.c. of the seal skins taken on the United States-controlled Pribilof Islands, and 1,500 skins from the harvest of the Commander and Robben Islands which are under control of the Soviet Union.

The International Commission for the Northwest Atlantic Fisheries conducts studies and makes recommendations for measures to conserve and develop the fish stocks off Canada's East Coast. The convention establishing the Commission was signed in 1949 and has since been ratified by 14 nations: Britain, Canada, Denmark, the Federal Republic of Germany, France, Iceland, Italy, Norway, Poland, Portugal, Romania, Spain, the Soviet Union and the United States. Romania was represented with full membership for the first time at the 1967 annual meeting of the Commission.

A Canadian proposal to bring the conservation of harp and hood seals of the Northwest Atlantic under the ICNAF Convention received final endorsement from member nations in 1966. First steps to initiate an international conservation program were taken at the 1967 meeting, when approval was given to recommendations to shorten the sealing

season, effective in 1968, and to undertake an expanded research program. Conservation measures previously adopted voluntarily by participating nations were confirmed, and consideration is to be given to additional regulations and to proposals for establishing international inspection.

The Great Lakes Fishery Commission, set up under the 1955 Great Lakes Fisheries Convention, provides a channel for joint action by Canada and the United States for research into Great Lakes fish stocks and a program to control the parasitic sea lamprey responsible for depleting lake trout stocks.

As a member of the International Whaling Commission, Canada is obligated to submit statistical data on whales caught by Canadian vessels and to conduct scientific studies on whale stocks of special interest to Canada.

Meanwhile, Canada moved to participate in three additional international conventions.

A draft international convention for the conservation of tuna and tuna-like fishes of the Atlantic Ocean was discussed at a conference in Rio de Janeiro, Brazil, in 1966. Canada was one of 17 nations represented at the conference which considered proposals for establishment of an international commission to study tuna stocks and to recommend maximum catch levels for the various species. Canada also participates in the tuna fishery of the eastern Pacific Ocean, and was represented for some years by an observer at meetings of the Inter-American Tropical Tuna Commission. This Commission was established in 1950 by a convention between the Republic of Costa Rica and the United States, with the aim of studying the relationships between the populations of yellowfin and skipjack tunas and of other kinds of fish taken by tuna fishing vessels in the eastern Pacific. Membership in the Commission was subsequently extended to Panama, Ecuador and Mexico. In view of increasing Canadian interest in this fishery, the Government of Canada in 1967 approved adherence to the Convention.

Also in 1967, Canada was one of 18 nations represented at a Fisheries Policy Conference held in London, England, to consider regulations designed for safety at sea for vessels of countries fishing the North Atlantic. The conference endorsed a Convention on the Conduct of Fishing Operations in the North Atlantic and North Sea which was referred for ratification by the respective governments.

While co-operating with other nations to conserve high seas fisheries resources through international agreement, Canada acted in 1964 to protect inshore fisheries by establishing a 12-mile exclusive fishing zone on all coasts. The Territorial Sea and Fishing Zones Act proclaimed in that year has since been enforced against all countries except those having traditional fishing rights. Negotiations have been conducted with these latter countries with regard to the application of the fishing zones and to the location of base lines from which they are measured.

As evidence of its support for international consultation and co-operation in fisheries, Canada maintains active membership in the Fisheries Division of the Food and Agriculture Organization of the United Nations and in the Codex Alimentarius Commission which is concerned with world food quality standards.

Further involvement in international fisheries came in 1967 when Canada was accepted as a member of the International Council for the Exploration of the Sea. First established in 1902 in Copenhagen, when it was entrusted with the co-ordination of international investigations of the seas, particularly those in the eastern North Atlantic Ocean, ICES has in recent years provided considerable scientific support to the Research and Statistics Committee of ICNAF. There are 16 other member states: Belgium, Denmark, Finland, France, Germany, Holland, Iceland, Ireland, Italy, Norway, Poland, Portugal, Spain, Sweden, Britain and the Soviet Union.

The Fisheries Research Board of Canada.—The Fisheries Research Board is a research organization established by Act of Parliament (RSC 1952, c. 121) for the purpose of conducting basic and applied research on Canada's living aquatic resources, the

environment and their utilization. Its antecedents go back to 1898 and it is thus the lineal descendant of one of the oldest scientific organizations in Canada and one of the oldest government-supported research organizations under the supervision of an independent scientific board in North America.

By its Act, the Board is placed under the control of the Minister of Fisheries. The Board proper consists of a permanent chairman, who is appointed by the Governor in Council and who is a member of the Public Service of Canada, and "not more than eighteen other members" holding honorary appointments from the Minister of Fisheries for five-year terms; the Act requires that "a majority of the members of the Board, not including the chairman, shall be scientists, and the remaining members of the Board shall be representative of the Department [of Fisheries] and the fishing industry". The scientific members are drawn principally from universities and research foundations across Canada, to include specialists in disciplines related to the Board's work. The industry members are selected from among Canada's leading business men with an intimate knowledge of fishing and the fishing industry and the Department of Fisheries representative is usually a senior staff member in Ottawa. Board members have both advisory and executive functions. The advisory functions are delegated in the first instance to regional Advisory Committees who conduct on-the-spot regional reviews and report to the Board on the operations and scientific programs with a view to their improvement. The executive functions are delegated to an Executive Committee elected from Board members and approved by the Minister.

The operations of the Board are highly decentralized, there being only a small administrative, supervisory and publications staff in Ottawa. The responsibilities of the Ottawa office include administration of a grant program to encourage university research in the fields of marine and aquatic science. The Board employs approximately 900 persons, of whom about 250 are scientists.

Biology.—The biological program of the Board is designed to add to fundamental knowledge concerning Canada's vast living marine and freshwater resources. Included here are life history, population and behaviour studies leading to a sound scientific basis for the conservation and management of the commercially important fisheries including those for lobsters, crabs, shrimps, oysters, scallops, clams, marine mammals and other well-known economically important aquatic species of animals, such as salmon, cod, herring and halibut, as well as some marine plants, such as phytoplankton and seaweeds. Also included are studies in fish and shellfish diseases, fish enemies including the ill effects of water pollution, and such basic studies as fish genetics, physiology and behaviour, the latter with a view to improving fish cultural and farming methods and also to improving fish farm and hatchery stocks. Besides these basic studies, new fishing grounds and new species for exploitation are sought and experiments in improving fishing methods are undertaken.

The biological work on the Atlantic Coast is conducted out of research stations located in St. Andrews, N.B., and St. John's, Nfld.; work on arctic fisheries and on sea mammals is directed from a laboratory situated in Ste. Anne de Bellevue, Que.; freshwater work is carried out from a station in Winnipeg, Man.; and work on the Pacific Coast is directed from research laboratories situated in Nanaimo, B.C. The Board operates 18 research vessels for its biological studies, varying from small inshore and lake craft to specially built seagoing ships. The Board acts as Canada's research agent for three international fisheries commissions and two international sea-mammal commissions to which Canada is party.

Oceanography.—Oceanography includes the study of the marine (and freshwater) environment in which aquatic organisms live. This is under continuing study to further knowledge in primary and secondary productivity and the occurrence of ocean and freshwater life of importance to man. Encompassed here also are investigations into the distribution and physical and chemical characteristics of major ocean currents and the

physical and biological structure of large ocean areas including the ocean bottom where concentrations of fish and other aquatic life occur. Ocean climate and ocean weather as they affect the distribution of fish and other living organisms as well as the vertical and horizontal distribution of nutrient matter and the cycle of energy and life in the seas are regularly observed and correlated. These studies, as well as special studies of interest to the Royal Canadian Navy, the Department of Transport and the international fishery commissions, are carried out by the Board's two oceanographic groups operating from Dartmouth, N.S., and Nanaimo, B.C., with strong ship support from the Navy and the Department of Transport, and co-operation from the Department of Energy, Mines and Resources.

Technology.—Investigations are conducted toward improving methods of preserving, processing, storing and distributing fish products, as well as of utilizing all parts of the fish. These include developments in refrigeration and the use of antibiotics as fish preservatives, improvements in canning, smoking and salting of fish as well as the development of new products for the utilization of abundant species that are not now used for food. Fundamental studies of the structure and composition of fish proteins, fish oils and fish hormones, of the energy expenditure of migrating salmon and of the nutrition of marine bacteria are under way.

Technological investigations on the Atlantic Coast are carried out at research laboratories situated in Halifax, N.S., and Grande Rivière, Que., and applied work for Newfoundland is carried out at a Technological Unit in St. John's. For inland areas technological work is centred at Winnipeg, Man., and a research laboratory in Vancouver, B.C., undertakes investigation of Pacific Coast problems.

The Fisheries Prices Support Board.—Established under the Fisheries Prices Support Act of 1944 (RSC 1952, c. 120), the Fisheries Prices Support Board is responsible for investigating and, where appropriate, recommending government action to support prices of fishery products where declines are experienced. The basic principle of the legislation is to protect fishermen against sharp declines in prices and consequent loss of income. The Board is responsible to the Minister of Fisheries and consists of a chairman, who is a senior officer of the Department of Fisheries, and five members chosen from the fishing industry in the various fishing regions of Canada.

The Board has authority to buy quality fishery products under prescribed conditions and to dispose of them by sale or otherwise, or to pay to producers the difference between a price prescribed by the Board and the average price the product actually commands. The Board has no power to control prices other than its purchase policy nor has it any jurisdiction over operations in the fishing industry or the fish trade. Money necessary for dealings in fishery products is available to the Board from the Consolidated Revenue Fund to a maximum amount of \$25,000,000 annually on recommendation of the federal Treasury Board and authorization of the Governor in Council.

In order to stabilize the price of Lake Erie yellow perch, which had been subject to drastic decline due to heavy spring production, the Board in 1966 purchased \$184,000 worth of perch from the summer and fall fishery and re-sold it to the processing trade. From the 1967 spring fishery, a further \$544,000 worth was purchased and held in storage for re-sale in 1967-68. The Board also purchased 23,000 cases of canned mackerel from Northumberland Strait packers to meet requirements of the World Food Program. Close review was maintained of the market for frozen groundfish blocks following price declines but no price support action was recommended.

The Board co-operates with the Economics Service of the Department of Fisheries in the collection and analysis of costs of fishing operations and, in co-operation with the Department of Trade and Commerce, maintains a continuous review of the markets for various fishery products. A small staff is maintained for administrative activities and headquarters of the Board in Ottawa.

Subsection 2.—The Provincial Governments*

An outline of the work undertaken by each of the provincial governments in connection with administration of commercial and game fisheries is given in the following paragraphs.

Newfoundland.—The provincial Department of Fisheries in conjunction with the Newfoundland Fisheries Development Authority, a Crown corporation established in 1953, is concerned mainly with the improvement and development of fishing and production methods. It conducts experiments and demonstrations in new designs of fishing gear as well as the modification of existing types, the construction of multi-purpose fishing craft and the exploration of potential fishing grounds with a view to increasing catching efficiency.

Loans are made to processors for the establishment and expansion of fish processing plants and for deepsea draggers. Aid to fishermen for the construction of modern vessels capable of a greater variety of fishing operations and larger production is provided by loans from the Newfoundland Fisheries Loan Board and bounty payments at the rate of \$160 a ton for newly constructed vessels under the Fishing Ships (Bounties) Act, 1955. The Fishing and Coasting Vessels Rebuilding and Repairs (Bounties) Act, 1958 authorizes financial assistance in maintaining and prolonging the life of the existing fleet. An Inshore Fisheries Assistance Programme provides a maximum bounty of \$10 a foot on boats measuring from 24 to 35 feet and bounties are also paid to fishermen on certain types of synthetic fibre fishing nets and lines. The Coasting Vessels (Bounties) Act, 1959 authorizes the granting, for locally built ships, of a maximum bounty of \$300 a ton for vessels measuring from 15 to less than 100 gross tons, and \$150 a ton for vessels of between 100 and 400 gross tons.

Other services include: advisory services to fishermen on gear and equipment, industrial research, plant construction, plant engineering and economics; assistance to fishermen's unions; weather and ice reports; and search and rescue. The Fisheries Salt Act, 1957 provides for rigid control over the use of fisheries salt.

Sport Fisheries.—The inland waters of Newfoundland, although they provide excellent sport fishing, are not commercially exploited. The lakes and ponds actually remain under the authority of the Natural Resources Branch of the provincial Department of Mines, Agriculture and Resources but, under federal-provincial agreement, these waters, including rivers and streams, are under federal control in matters of conservation and guardianship.

Prince Edward Island.—The sea and inland fisheries of Prince Edward Island are administered by the Federal Government. The provincial Department of Fisheries supplements federal activity and is concerned mainly with development of the fisheries industry. The Department provides technical assistance and, in conjunction with the Fisheries Research Board of Canada and branches of the federal Department of Fisheries, engages in some experimental work.

Financial assistance is made available to fishermen through the Fishermen's Loan Board of Prince Edward Island, a body corporate operating under the provincial Department. The Fishermen's Loan Board operates under authority given by the Re-establishment Assistance Act and regulations thereunder, approved by the Lieutenant-Governor in Council, Jan. 7, 1949, with amendments. Loans are made to fishermen and companies for the purchase of boats, engines and other deck machinery at a subsidized interest rate. Loans for the construction or expansion of processing plants are available through the Industrial Establishments Promotion Act, the Prince Edward Island Industrial Corporation or the Industrial Enterprises Limited.

Sport Fisheries.—Game fisheries are the responsibility of the provincial Department of Fisheries. The streams of the province, mostly spring-fed and fairly constant in flow,

* Prepared by the respective provincial departments responsible for fisheries administration.

provide very favourable conditions for the reproduction of game fish, of which speckled trout is the most important variety. Investigations concerning the production of trout of a size attractive to anglers are being conducted by the Fisheries Research Board of Canada and the Provincial Fish and Wildlife Division at various sites in the province. Unfortunately many of the formerly fertile and highly productive ponds of the province have disappeared and the provincial Department is actively concerned with damming and restoring these for the enjoyment of the public.

Nova Scotia.—Although the Federal Government has exclusive jurisdiction over the marine and inland fisheries of Nova Scotia and attends to all phases of administration related thereto, the Nova Scotia Government operates in several fields where provincial initiative is found to be necessary and appropriate, having regard for the importance of the fishery resources in terms of employment, industry, trade and recreation.

In the commercial fisheries, provincial government interests are the concern of the Nova Scotia Department of Fisheries. The Fishermen's Loan Board is administered by that Department and the Industrial Loan Board by the Nova Scotia Department of Trade and Industry; the first makes loans to fishermen for the purchase of boats and engines and the second makes loans for the construction or improvement of fish processing plants. Fisheries engineers perform inspection and survey duties for the Loan Board and provide technical assistance and advice to loan applicants and others in the fisheries and allied industries, notably the boatbuilding industry. Instructors conduct courses for fishermen in the care and maintenance of marine engines, in basic navigation and in the design, construction and maintenance of gear. The on-course instruction is supplemented frequently by informal on-the-spot assistance to smaller groups who find themselves in need of technical help with particular problems. The Nova Scotia Department of Fisheries, with the financial and/or technical assistance of the federal Department of Fisheries, organizes and conducts explorations of fishing grounds for new resources and the adaptability of new, improved gear and methods.

Sport Fisheries.—In recent years, Nova Scotia, through the Wildlife Division of the Department of Lands and Forests, has spent a considerable amount of money on management and research in certain lakes and streams in the province with a view to aiding the Atlantic salmon and trout fishery. A continuing program of lake and stream investigations was begun in 1961 in order to obtain information useful in the formulation of a fish management program for the future. A system of rearing ponds, capable of producing 200,000 yearling speckled trout annually, has been established on the Medway River in Queens County and the Moser River in Halifax County. Several projects dealing with reclamation, farm ponds, rainbow trout and smallmouth bass are also being conducted. Full-time fisheries biologists are employed by the Division.

The Nova Scotia Travel Bureau, a division of the provincial Department of Trade and Industry, has been promoting saltwater sport fishing by conducting a series of courses for captains contemplating the establishment of charter services, awarding prizes to sportsmen with the largest tuna and bass catches of the season, sponsoring the International Tuna Cup Match and the Intercollegiate Game Fish Seminar and Fishing Match and publishing a brochure listing charter boats available in the province.

New Brunswick.—Commercial fishing is one of the most important basic industries of New Brunswick, employing about 5,800 fishermen with annual earnings of \$11,000,00 and 2,500 plant workers. The annual marketed value of fish products is about \$46,500,00 of which 90 p.c. is exported to the United States. New Brunswick's commercial fisheries both tidal and inland, are under the legislative jurisdiction of the federal Department of Fisheries; angling in Crown waters is the responsibility of the provincial Department of Natural Resources.

The New Brunswick Department of Fisheries, established in 1963, has three Branches—General Administration, Boatbuilding and Maintenance, and Exploratory Fishing and Education. The Fishermen's Loan Board of New Brunswick, created in 1946, is under the jurisdiction of the Minister of Fisheries.

The General Administration Branch is responsible for personnel, accounting, field staff and administration of the New Brunswick Fish Inspection Act and Regulations; it operates three regional offices covering the three main fishing areas of the province. It is very active in promoting the establishment of additional fish processing plants in the province and in developing new markets for fishery products at home and abroad. It also maintains close liaison with various government departments and agencies, both federal and provincial, to assist the fishing industry in the province.

The functions of the Boatbuilding and Maintenance Branch, which is staffed with marine engineers, boat inspectors and a naval architect, include the study, modification and approval of plans and specifications of fishing vessels to be financed by the Fishermen's Loan Board; the inspection of the 100 to 125 vessels of various types and sizes being built every year in the province's 15 shipyards; and the training of fishermen in the proper methods of maintaining hulls and machinery. Continuous efforts are made by the Branch to improve construction standards of inshore fishing vessels. Boats of sturdier construction and equipped with more powerful propulsion engines are enabling inshore fishermen to diversify their operations from the traditional lobster fishery. New designs are being introduced in the fleet of 128 large offshore and 3,200 small inshore fishing vessels which make up the present fishing fleet, the trend being toward larger and more automated vessels. Combination types capable of dragging for groundfish and purse seining for pelagic species are becoming more popular among the younger well-trained fishermen. The West Coast-designed combination trawler-seiner of hard chine construction introduced to the fleet in 1966 has proved successful. One 79-foot unit and one 100-foot unit have been added to the fleet and two additional 100-foot vessels were completed in 1967. Two 87-foot wooden-side trawlers have been added to the existing fleet of ten operating in the Gulf of St. Lawrence. Three 65-foot combination dragger-seiners of wooden construction were built in 1967 as well as one 72-foot dragger, one 54-foot seiner, one 58-foot combination dragger-seiner and one 126-foot stern trawler of steel construction.

The Exploratory Fishing and Education Branch continues the experimental and exploratory fishing and fish processing projects that have been carried on for many years in co-operation with the federal Department of Fisheries. Results of this extensive experimental work and research studies include the establishment of crab fisheries on the east and north coasts of the province; the establishment of a tuna fishery in the Bay of Fundy, on the shores of which a \$4,500,000 canning plant is now in operation. This firm will operate five large tuna seiners fishing the rich tuna grounds off the coast of Chile, as well as the Gulf of Guinea and the Western Atlantic seaboard. In the search for unexploited species of fish and shellfish, in addition to cancer crabs and tuna, commercial quantities of spider crabs and shrimps were located in the deep waters of the Gulf of St. Lawrence and in the Bay of Fundy. During 1967-68, 12 fisheries development projects were undertaken on a shared-cost basis with the federal Department of Fisheries. Offshore exploration for herring in the Gulf of St. Lawrence conducted in 1966 with a B.C. herring seiner was so successful that a fleet of six seiners, five of them from British Columbia, are now harvesting the rich fishing grounds of the area to supply three new fish meal and oil plants of a combined capacity of 900 tons of raw fish per day. The Branch operates a modern school of fisheries at Caraquet where, in 1966-67, 142 fishermen took training in the various phases of their trade. The regular program of the school includes navigation, rules of the road, motor mechanics, electronic devices, fishing-gear technology, business administration, marine biology, oceanography (restricted), radio-telephone, metal and wood working, arithmetic and languages (up-grading) and other related subjects. Arrangements are being made to extend the regular course from five to nine months of the year and to conduct extension courses.

The Fishermen's Loan Board of New Brunswick is a body corporate operating under the jurisdiction of the Minister of Fisheries. Since its inception in 1946 it has granted over 2,000 loans to New Brunswick fishermen for a total of \$17,600,000; total outstanding loans stood at \$6,350,000 in 1967. Loans are repayable within five years on small inshore boats but repayment schedules on large trawlers may extend to 15 years, based on the gross proceeds of the catch. Most of the new fishing vessels being built in the province are financed by the Board, which also acts as agent for the financial assistance program granted by the federal Department of Fisheries to owners of new fishing vessels.

Sport Fisheries.—Sport fishing contributes substantially to the economy of the province, mainly through the tourist trade. Great Atlantic salmon rivers like the Miramichi, the Restigouche and the St. John are known around the world for their prolific production of this majestic game fish and attract many thousands of tourists to the province each year. Anglers catch as many as 50,000 salmon a year in the Miramichi system alone. Many other species are also sought after by both residents and non-residents in the hundreds of streams, rivers and lakes of the province.

Quebec.—The Quebec Department of Industry and Commerce administers the commercial fisheries of the province. For the benefit of producers and fishermen, it operates a network of 58 cold storage plants for the freezing and preservation of fish and the supplying of frozen bait and ice; the plants have a total daily freezing capacity of 500 tons and a storage capacity of 25,000,000 lb. The Department also owns and maintains about 110 stations in small fishing ports where fish are kept under proper conditions while awaiting collection by truck or boat, and an artificial drying plant with a processing capacity of 3,000,000 lb. of fish annually. A staff of fish wardens, technicians and technologists administers fishery legislation and assists in the application of new technique for the expansion of the industry. The central administration is located in Quebec City, with offices at the principal fishing centres. Fish inspection is carried out by federal inspectors who are given additional powers by the provincial government with respect to local sales.

Educational work among the fishermen and producers is conducted by the Department to teach the latest methods of fish preparation and of producing high-quality products. A Fisheries Training School, operated by the Department of Education at Grande Rivière, gives free theoretical and practical courses in fishery to fishermen of all ages. La Fédération des pêcheurs unis du Québec receives encouragement through the Fisheries Division of the Quebec Council of Co-operation subsidized by the Federal Government. Under a maritime credit system, fishermen may obtain loans from credit unions for the purchase of boats and gear. Fish consumption is promoted through advertising campaigns in newspapers and magazines, exhibits at fairs, cooking demonstrations, educational films and the free distribution of fish recipes and publicity leaflets.

The Department adheres to the federal-provincial agreement on the building of dragners and longliners and assumes the building costs on a capital refunding plan. As of Mar. 31, 1967, the fishing fleet consisted of two 129-foot steel dragners, 14 82-foot steel dragners, 96 wooden dragners, eight combination dragger-seiners, 49 longliners and one boat equipped for clam dragging. The cost of construction of fishing boats since 1951 has been about \$15,000,000 and loans to fishermen have exceeded \$10,000,000.

Biological and hydrographical research is conducted in the Gulf of St. Lawrence directed by the Marine Biological Station at Grande Rivière, and studies of the biology of freshwater fish of the St. Lawrence River and its tributaries are undertaken at a laboratory located in Quebec City. An aquarium in Quebec City exhibits freshwater and saltwater fish in 60 large tanks.

Sport Fisheries.—Sport fishing in the inland waters of Quebec is under the jurisdiction of the Department of Tourism, Fish and Game, which employs 250 full-time wardens and issues the licences required for sport fishing and hunting. It maintains four hatcheries

at strategic points throughout the province for the distribution in public waters of speckled trout, brown trout, rainbow trout and grey trout, splake, ouananiche, maskinonge and salmon.

Excellent fishing may be found in all provincial parks and reserves, except Mont Orford Park. Gaspésian and Laurentide Parks are renowned for trout fishing. Chibougamau Reserve and La Vérendrye Park, situated on the height of land, are eminently suited to canoe trips in search of pickerel, pike and grey or speckled trout. Eight salmon streams are open to anglers—the Petit Saguenay River, the Laval River, the Moisie River, the Matane River, the Cap Chat River, the Ste. Anne River, the St. Jean River and the Matapédia River.

A joint committee composed of departmental officials and the directors of the Federation of Fish and Game Associations makes recommendations to the provincial government concerning legislation required for the maintenance of satisfactory fishing and hunting conditions and other problems arising out of the ever-changing conditions of modern life and their effect on the wildlife of the province.

Ontario.—The fishery resources of Ontario are administered by the Fish and Wildlife Branch, Department of Lands and Forests, under the authority of the federal Fisheries Act, the Fishery Regulations for the Province of Ontario, the Ontario Game and Fish Act and the Regulations connected therewith.

Commercial Fisheries.—The commercial fishing industry in Ontario provides employment for about 3,000 persons directly and for many more indirectly, and produces an annual yield of from 45,000,000 lb. to 55,000,000 lb. of fish. The industry, although widely scattered throughout the province, is centred chiefly on the Great Lakes, particularly Lake Erie. The principal species of fish taken commercially are perch, smelt, whitefish, pickerel, lake trout, white bass, pike, herring, chub, sheepshead, carp, catfish and bullheads, sturgeon, eels, goldeyes, rock bass, sunfish and suckers. Over one hundred smaller inland lakes are commercially fished, principally those in the northwestern portion of the province, and careful management of these lakes is essential to ensure continued production.

The types of fishing boats in use vary from small craft to 60-foot tugs, and types of gear vary from gillnets, pound-nets and trap-nets, seines and baited hooks to small hand-operated seines and dip-nets. Fishing methods and equipment have been modernized extensively during the past few years. Diesel-driven steel-hull tugs have replaced steam-driven wooden tugs, such aids as depth-sounding devices, radar, ship-to-shore and ship-to-ship communications have been developed and a better knowledge of the fish and their movements has been established from biological research findings. Modern icing facilities and transportation methods are in use as well as new types of fishing gear. Trawling has proved very efficient in harvesting smelt on a year-round basis in Lake Erie.

Most Ontario fishermen are organized into various local associations. Many of these associations are, in turn, represented by the Ontario Council of Commercial Fisheries which performs important services to the industry. The Ontario Fishermen's Co-operative and its member groups are of importance also in the organization of the fishery in the province.

Sport Fisheries.—Angling in Ontario is rapidly becoming one of the major industries of the province. With an estimated freshwater area of some 68,490 sq. miles, the province is one of the most attractive fishing areas on the Continent. Excellent angling opportunities are available for such prized fish as brook, rainbow, lake and brown trout, walleye, smallmouth and largemouth bass, pike and maskinonge. It is difficult to measure the total value of the sport fishing industry to the province but the annual revenue from the sale of angling licences alone (mainly to non-residents, as residents require a licence for provincial parks only) is in the neighbourhood of \$2,500,000. The management of this valuable resource is administered by a well-trained field staff of conservation officers and biologists located in the 22 forest districts of the province.

Provincial Hatcheries.—Ontario operates 17 hatcheries and rearing stations, the main species reared in these operations being brook trout, rainbow trout, lake trout, smallmouth and largemouth bass, and maskinonge. A program of modernization of the hatchery system is being undertaken—the Normandale Hatchery in Norfolk County has recently been completely renovated and the North Bay Station is under reconstruction.

Fisheries Research.—Research in Ontario is carried on in the Great Lakes and in inland waters. At the South Bay Mouth Station on Manitoulin Island in Lake Huron, Wheatley on Lake Erie, and Glenora on the Bay of Quinte on Lake Ontario, fishery biological stations are operated for the investigation and study of the commercial and sport fisheries on the respective lakes. In Algonquin Park, detailed studies concerning lake trout, smallmouth bass and brook trout are in progress and management techniques are being tested against the background of a creel census which has been continuous since 1936. Studies are also being conducted on walleye, parasitology and limnology. A selective breeding experiment concerning the hybrid of lake trout and brook trout is progressing the deep-swimming character of the lake trout and the character of maturity at early age of the brook trout are those being selected for combination in the hybrid. Investigations include the study of exotic species of fish for use in the Great Lakes. Kokanee (sockeye salmon) plantings have been made in Lake Ontario and Lake Huron.

Manitoba.—Commercial fishing has been carried on in Manitoba since 1880. The province has almost 40,000 sq. miles of fresh water and 400 miles of coastline on Hudson Bay but, altogether, about 300 lakes and rivers, covering 30,000 sq. miles, are commercially fished. Some 3,400 persons are employed in primary commercial fishing and an equal number derive part of their living from fish processing and the supply of materials and services to the industry. The industry is particularly important to people living in remote northern communities where fishing provides a major part of their cash income but, even so, almost two thirds of the catch is taken in the southern part of the province. In 1966-67 Lake Winnipeg produced 8,063,600 lb., Lake Manitoba 6,510,200 lb., Lake Winnipegosis 4,330,100 lb. and other southern lakes 659,100 lb. The northern lakes produced 10,367,300 lb. The total value to the fishermen in 1966-67 was \$4,787,502 and the value as marketed was \$7,544,700. The average marketed catch for the five years 1963-67 was 32,003,600 lb., worth \$4,293,000 to the fishermen and \$7,138,000 at the wholesale level after processing. About half of the catch is taken during open water and the remainder through the ice in winter.

There are 15 kinds of fish caught commercially in Manitoba but those of highest annual value to the fishermen are pickerel, whitefish, sauger and pike. Over 90 p.c. of the catch is exported, mostly to the United States. A quantity of the less valuable kinds and some processing waste are used as food on mink ranches and for the making of meal; a small industry to process white whales (beluga) for oil and animal food has been established on Hudson Bay. Capital investment in gear, boats, warehouses, etc., approaches \$4,000,000.

Supervision of commercial fishing operations and the enforcement of the Manitoba Fishery Regulations occupy a staff of Conservation Officers who patrol the province using diesel boats during the open water season, snowmobiles and light trucks during the winter and aircraft in remote areas. The Fisheries Branch of the Department of Mines and Natural Resources, in co-operation with the Department of Health, conducts a systematic program of plant inspection to raise the standard of sanitation and improve the processed product.

A continuing program of biological research is conducted by the Fisheries Branch to provide management information in the interest of a sustained annual yield and a program has been established to test and prove new improved netting and gear which will increase production and lower operating costs. Close liaison is maintained with the federal Department of Fisheries and the Fisheries Research Board in the effort to develop new fish products and effect more complete utilization of the province's fishery resources.

Fish culture activities include two pickerel hatcheries (Lake Manitoba and Lake Winnipegosis), a whitefish hatchery (Lake Winnipeg), a trout hatchery (Whiteshell Provincial Park) and two spawn-taking camps. Fish to replenish the commercial fishing waters are raised in the pickerel and whitefish hatcheries and several kinds of trout as well as splake and sockeye salmon are raised in the Whiteshell hatchery to be planted in sport fishing waters.

Sport Fisheries.—Angling continues to be one of the most popular and most rapidly growing forms of outdoor recreation in Manitoba, and since ice-fishing has come into vogue many anglers are now fishing over the entire year. About 104,000 licensed fishermen, 17,000 of them from outside Canada, spend an estimated \$11,000,000 in pursuit of this sport each year. Although their catch of about 5,000,000 lb. is considerably less than the commercial fishing yield, the monetary value to the province of the sport fisheries is higher. Extensive water areas are reserved for sport fishing only but others are managed for both types of use. Walleye (pickerel), northern pike and the various trout species are the main species taken. Either or both of the first two species occur in nearly every body of water in the province but trout require a more specialized habitat and occur only in select lakes and rivers.

Saskatchewan.—Approximately 32,000 sq. miles of water, about one eighth of the province's area, provide the basis for Saskatchewan's fishery resource, a resource that contributes much to the economic and recreational activity of the province. Administration of the fisheries is the responsibility of the Fisheries Branch of the Department of Natural Resources; its head office is located in Prince Albert. The Branch has three main Divisions—Management, Research and Fish Culture—which are responsible for planning policies; developing programs to ensure the proper management and utilization of the fishery resource; interpreting and explaining policies, programs and regulations; administering the Acts and Regulations (both federal and provincial); and adapting regulations to meet changing conditions. Its objective is to encourage efficient multi-use of the fishery, taking into consideration the interests of the various groups concerned—commercial fishermen, mink ranchers, anglers and the public generally.

The commercial fishery in Saskatchewan averages about 14,500,000 lb. annually and consists mainly of whitefish, lake trout and walleye. In 1965 the total catch of 14,933,000 lb. had a market value of \$3,480,000, of which \$1,734,000 was received by the fishermen. This was an increase over the previous year, the result of a better harvest of northern pike and tullibee. Eighteen local fishermen co-operatives, representing 1,545 fishermen, marketed 46 p.c. of the total harvest in 1965. During the year, 329 free Indian permits and 1,121 domestic fishing licences were issued, resulting in a catch of about 1,200,000 lb. of fish of all species; the 61 mink ranchers licensed to fish for 7,272 breeders produced an estimated 4,300,000 lb. of rough fish (suckers, burbot and ciscoes).

The Fish Research Division conducts biological surveys on most of the large lakes and on many smaller water bodies and streams in the province to provide information for the development of fisheries management policies and programs. The current program is designed to determine productivity of water bodies, secure information on abundance and relationship of fish species, investigate ecology and assess factors affecting environment of fish, develop techniques to achieve maximum harvest of fish populations without prejudice to continued production, and develop techniques to facilitate rehabilitation and stocking of small water bodies. Continuing limnological and fisheries surveys are conducted on lakes along the Lac la Ronge highway, along Highway 106, on the Saskatchewan River delta, and on Jackfish, Murray, Green and Turtle Lakes. A long-term creel census is being taken on Lac la Ronge and studies have been conducted to test survival of young northern pike.

Spawn camps are operated in northern Saskatchewan to collect lake trout, whitefish, northern pike, walleye and arctic grayling eggs. These, along with rainbow and eastern

brook trout eggs received from the United States and alpine charr from France, have been incubated and hatched at the Fish Culture Station at Fort Qu'Appelle. Millions of fry are stocked in many water bodies in the province.

Sport Fisheries.—Saskatchewan has some of the finest sport fishing waters in Canada. A total of 101,480 angling licences were sold in 1965. To meet recreational demands, 141 examinations of water bodies were conducted during the year. Because of severe winter conditions, nine were rejected as having insufficient oxygen to support fish life during the winter months.

The experimental rehabilitation program has been continued along the Churchill Lake road to test low concentrations of toxicants. This program has resulted in the introduction of rainbow, brook and splake trout, arctic grayling and kokanee (salmon) into previously rehabilitated lakes. Good catches of these species are ample proof that lake reclamation is providing excellent opportunities for the Saskatchewan angler. Record game fish species, taken during the season, included a 43-lb. lake trout from Little Bear Lake (Highway 106); a 30-lb. northern pike from Grease River, Athabasca Lake; a 10-lb. 11-oz. walleye from Chitek Lake; a 10-lb. 9-oz. rainbow trout from Piprell Lake and a 4-lb. 4-oz. grayling from Fond du Lac River.

Alberta.—Commercial and sport fishing is administered by the Fish and Wildlife Division of the Department of Lands and Forests, under the authority of the Fisheries Act (Canada) and the Fishery Act (Alberta). Production of commercial fish from Alberta's 6,485 sq. miles of fresh water for the year ended Mar. 31, 1966, was 8,894,225 lb. Landed value of the catch was \$720,886 and marketed value amounted to \$1,188,319. Lake whitefish, the most valuable commercially caught fish, accounted for 49 p.c. of the total marketed value, although this species represented only 21 p.c. of the total landings. Production of tullibee, primarily used for animal food, dropped 50 p.c. from the previous year but remained in second place in value among the fish marketed. Other species taken, in order of marketed value, were pickerel (walleye), pike, perch, burbot (ling), trout and suckers. Of the total quantity taken, 1,842,854 lb. were marketed outside the province and of this amount 1,672,745 lb. were exported to the United States.

Sport Fisheries.—Angling licence sales increased from 125,000 in the year ended Mar. 31, 1966, to 133,092 in 1966-67. Fish hatchery facilities in Calgary and the rearing station at Raven produced 3,895,600 trout and kokanee (salmon) for stocking provincial waters. Rainbow trout accounted for about 90 p.c. of the total and cutthroat trout, brown trout brook trout and kokanee made up the remainder. In addition, 700,600 walleye, perch and pike were stocked in various locations where winter-kill had removed resident populations or where new introductions were required.

Reorganization within the Fish and Wildlife Division resulted in the creation of two additional biological districts, making a total of six districts. District fishery biologist carried out biological surveys and initiated several research projects. A special project was undertaken in northern Alberta to determine the sport and commercial fishery potential of waters north of the 55th parallel of latitude.

British Columbia.—A Fisheries Office, which was organized in 1901-02 and became very active in fish culture work, building and operating fish hatcheries and instituting scientific research into various fishery problems, was superseded in 1947 by the Department of Fisheries which in turn was superseded in 1957 by the Department of Recreation and Conservation. Commercial fisheries are represented today as the Commercial Fisheries Branch of the Department of Recreation and Conservation. Broadly speaking, the administrative and regulative jurisdiction over the fisheries of British Columbia rests with the federal authority. The ownership of the fisheries in the non-tidal waters is vested in the Crown in the right of the province, as are the shell fisheries such as oyster fishing.

and clam fishing in tidal waters. The province administers these fisheries although the regulations covering them are made under federal Order in Council on the advice and recommendation of the province.

The provincial Fisheries Act provides for the taxation of the fisheries and, under civil and property rights, for the regulation and control of the various fish processing plants under a system of licensing. The commercial harvesting of oysters and marine aquatic plants is regulated by provincial permits and licences. Provision is also made for arbitration of disputes regarding fish prices that may arise between the fishermen and operators of the various licensed plants. The administration of the Act involves the collection of revenue and the supervision of plant operations.

Regulation and administration of net fishing in the non-tidal waters of the province, including commercial fishing and authority for regulation of the game fisheries in non-tidal waters, is vested in the Fish and Game Branch which operates a number of trout hatcheries and egg-taking stations for re-stocking purposes.

The Branch co-operates closely with the Fisheries Research Board of Canada. The biological research into those species of shellfish over which the province has control, principally oysters and clams as well as marine plants, is conducted by the Fisheries Research Board of Canada at the Pacific Biological Station, Nanaimo, B.C., under agreement with the federal and provincial authorities. The object of this research is to encourage the industry to produce better products more economically and to enable the Commercial Fisheries Branch to regulate the various species so that maximum exploitation may be obtained on a sustained-yield basis.

PART II.—FURS

Section 1.—The Fur Industry*

The value of raw furs produced in Canada in the 1965-66 season amounted to \$45,574,485, ranched furs accounting for 63 p.c. and wild furs for the remainder. This was an increase of almost 25 p.c. over the preceding season, due to the higher prices received for almost all furs and to increased production of many important species, although the total catch was down slightly.

Fur Trapping.—The value of the wild fur catch in 1965-66 was \$16,880,304. Beaver remained the most important wild fur bearer, accounting for 34 p.c. (\$5,739,147) of the total value of wild furs produced. Other important varieties were: muskrat (\$3,207,389), hair seal (\$2,128,900), wild mink (\$1,226,046), fur seal (\$1,009,933) and squirrel (\$561,755). Trapping is carried on in all the provinces and in the Yukon and Northwest Territories, the principal producers, in order of importance, being Ontario, Quebec, Manitoba and Alberta. A good proportion of the trapped furs still comes from the central and southern portions of the provinces where each year substantial catches of beaver, muskrat, mink, raccoon, wolf and squirrel are made in areas of mixed farm and bushland. In these sectors most of the trappers operate on a part-time basis, combining fur trapping with wage employment. This does not necessarily indicate that the rugged life of the outdoorsman has lost its attraction—rather it is a question of economics. Because of the failure of fur prices to keep pace with rising commodity costs, it is no longer possible to make a satisfactory living solely from the proceeds of the trapping enterprise. Also, up to the 1940s, most of the alternatives to fur trapping were low paid, physically demanding occupations, such as farm work, lumbering and pulpwood cutting and, compared with these, trapping had its attractions. Now, however, all these jobs have been up-graded while returns from trapping have not improved.

In the northern areas, where few opportunities for wage employment exist, trapping remains an important source of revenue. In the Northwest Territories, no trapping licences have been issued to non-natives since 1938, other than to individuals holding

* Prepared by the Livestock Division, Production and Marketing Branch, Canada Department of Agriculture, Ottawa.

licences at that date and their offspring and, as a consequence, most of the fur catch is now taken by Indian, metis and Eskimo trappers. In the northern areas, native trappers who formerly spent the winter months, along with their families, on the trapline now congregate with their dependants in settlements. While this community-type living has many advantages for the trapper's family, such as regular schooling, medical attention and the broader social life of the settlement, one of the undesirable results is that the areas around the settlements tend to be over-trapped and the less accessible areas neglected, with consequent waste of the fur resource.

In most areas of the country, the numbers of fur bearers are being well maintained. Conservation measures, including the establishment of natural preserves and the protection of scarce species, by limiting the catch or closing the season completely for a time, have been of major assistance in this connection. Also, in many fur-producing areas a registration system has been instituted under which trapping areas are assigned to individuals on a constant basis. Before the introduction of the registration system, competition between trappers in the same territory often resulted in exhaustion of the fur resource.

Fur Farming.—Mink is by far the most important species raised on farms; chinchilla, fox and nutria are also raised but these account for less than 1 p.c. of the total value of pelts produced. Mink farming is carried on in all the provinces, the principal producers, in order of importance, being Ontario, British Columbia, Manitoba and Alberta. The following figures indicate the growth of the industry since 1930:—

Year	Pelt Production	Average Realization	Year	Pelt Production	Average Realization
	No.	\$		No.	\$
1930.....	3,284	10.52	1960.....	1,203,853	14.03
1935.....	30,558	10.58	1961.....	1,271,449	14.50
1940.....	229,202	9.64	1962.....	1,295,672	15.13
1945.....	255,968	21.51	1963.....	1,400,021	15.82
1950.....	589,352	17.08	1964.....	1,416,085	14.92
1955.....	786,760	20.07	1965.....	1,633,152	17.41

The bumper crop of mink pelts that reached the market in December 1965 met with a strong demand and the average price realized was 16.7 p.c. above the 1964 return. To produce these pelts, mink farmers used some 60,000,000 lb. of rough fish and fish frames and 40,000,000 lb. of meat and poultry by-products, in addition to commercial cereals, liver, whale meat and other feeds.

Mink farming has become a specialized business which bears no relation to the production of wild mink pelts by trappers. The successful breeder must have a thorough knowledge of his animals' habits and requirements as well as a sound understanding of the complex field of genetics. The present-day ranched mink has resulted from the crossing of various strains of North American wild mink but selective breeding, with a view to meeting market requirements, has produced a pelt which is far darker in colour than most of the pelts taken in the wilds. Also, colour mutations, which do not usually survive in the wilds, have been carefully developed by the mink farming industry. These mutations have proved to be of inestimable value to the industry, providing a wide range of attractive natural colours and assuring for mink a continuing dominant position on the world's fur market. The most recent mutation is the "Jet Black" mink, which occurred in 1960 on a farm in Nova Scotia. Although this colour phase is common in other animals it had not previously been noted in mink. A herd of the Jet Black mink has since been carefully built up and in 1965 it was possible to offer breeding animals for sale. A substantial number have been purchased by producers in Canada, the United States, the Scandinavian countries and elsewhere. Because of its dominant breeding properties, the Jet Black mink is considered to be one of the industry's most important mutations.

The production of chinchilla pelts increased sharply in 1965 when the quantity marketed was 33.5 p.c. above the 1964 output. The principal producing provinces, in

order of importance, were Ontario, British Columbia, Alberta and Quebec. The following figures show the production of chinchilla pelts in Canada since 1956:—

Year	Pelt Production	Average Realization	Year	Pelt Production	Average Realization
	No.	\$		No.	\$
1956.....	2,705	9.65	1961.....	10,559	14.07
1957.....	4,701	13.84	1962.....	11,193	13.56
1958.....	8,336	13.43	1963.....	12,226	14.03
1959.....	8,558	13.17	1964.....	12,846	13.14
1960.....	9,067	13.06	1965.....	17,146	13.17

The fox farming industry showed a further decline in 1965 when 504 pelts were produced on 39 Canadian farms, compared with 780 pelts produced on 36 farms in 1964. Demand, principally from Japan, continued strong for this fur and the average price for the 1965 pelt crop was \$53.21, which was nearly 23 p.c. above the 1964 average and the highest return since 1929. The decreased pelt production in 1965 was partly due to the fact that breeders, encouraged by the stronger prices, retained more breeding animals than in 1964 but was mainly a continuation of the downward trend in production which has prevailed since the peak year of 1939 when 240,827 pelts were marketed.

Fur Marketing.—The bulk of the Canadian fur crop is sold in one or other of the eight fur auction houses located in Montreal, North Bay, Winnipeg, Regina, Edmonton and Vancouver. The marketing season extends from December each year through to the following June, or until the crop has been sold.

For the marketing agencies, December and January are months of particular stress. Pelting on the mink farms starts around mid-November and by the end of that month large quantities of pelts begin arriving at the auctions, to be included in the December sales. By early January the bulk of the crop has been delivered and since most breeders wish to have their pelts offered for sale immediately, the auctions are hard pressed to classify and catalogue the large quantities involved. In the period Dec. 1, 1965 to Jan. 31, 1966, approximately 90 p.c. of the 1965 crop of 1,633,152 ranched mink pelts was offered for sale, in addition to wild furs which become available in quantity from January onward. Before the growth of the fur farming industry the marketing of furs was spread more evenly throughout the year. The slower process of passing furs from the trapper to the fur buyer and on to the auction house was an important factor in the orderly marketing of the catch.

During the 1965-66 marketing season there was a buoyant demand for all types of Canadian furs and record numbers of buyers from other countries competed with Canadian fur merchants for the auction offerings. Returns for ranched mink were the highest since 1959-60 and many of the important wild fur species realized prices considerably above levels prevailing in recent years. Although the United States and Britain remained the most important purchasers, Canadian furs went to most of the countries of Continental Europe, Australia, South Africa, Hong Kong, Japan and other areas.

Section 2.—Fur Statistics

Subsection 1.—Fur Production and Trade*

Total Fur Production.—Annual figures of raw fur production have been made available by the Dominion Bureau of Statistics since 1920. For a number of years the statistics were based on information supplied by the licensed fur trappers but they are now based on figures of royalties, export taxes, etc., provided by the game departments of all provinces except Prince Edward Island. Figures for Prince Edward Island are based on returns supplied to the DBS by fur dealers in that province.

* Prepared by the Agriculture Division, Dominion Bureau of Statistics.

Table 1 shows the fluctuating trend of the fur industry over the past two decades. The value of fur pelts produced in 1966 reached a high of \$45,574,485, although it should be mentioned that, from 1964 on, the figures include hair and fur seal pelts, which in 1966 had a value of \$3,139,000; omitting the seal pelts, the 1966 figure would be second to that of 1946. The proportion of the total value of pelts sold from fur farms continues upward reaching 63 p.c. in 1966.

1.—Pelts of Fur Bearing Animals Produced and Percentage Sold from Fur Farms, Years Ended June 30, 1947-66

Year Ended June 30—	Pelts		Percentage of Value Sold from Fur Farms	Year Ended June 30—	Pelts		Percentage of Value Sold from Fur Farms
	Number	Value			Number	Value	
		\$				\$	
1947.....	7,486,914	26,349,997	37	1957.....	6,919,724	25,592,130	57
1948.....	7,952,146	32,232,992	37	1958.....	6,440,319	26,335,109	60
1949.....	9,902,790	22,899,882	33	1959.....	5,370,531	25,800,555	62
1950.....	7,377,491	23,184,033	34	1960.....	5,999,414	31,186,078	60
1951.....	7,479,272	31,134,400	36	1961.....	6,237,360	28,737,087	59
1952.....	7,931,742	24,215,061	42	1962.....	5,771,129	28,971,077	64
1953.....	7,568,865	23,349,680	43	1963.....	5,123,395	31,943,418	62
1954.....	6,274,727	19,287,522	49	1964 ¹	4,829,717	39,493,233	57
1955.....	9,670,796	30,509,515	43	1965 ¹	5,609,025	36,534,609	58
1956.....	7,727,264	28,051,746	56	1966 ¹	5,494,121	45,574,485	63

¹ Includes seal pelts.

Table 2 shows the provincial distribution of fur production. Ontario continues to lead the provinces and territories in this respect, accounting for 27 p.c. of the total value in the 1965-66 season compared with 25 p.c. in the previous season. Increased percentages were also shown by Nova Scotia, Manitoba, Saskatchewan and British Columbia.

2.—Pelts of Fur Bearing Animals Produced, by Province, Years Ended June 30, 1965 and 1966

Province or Territory	1965			1966		
	Pelts	Value	Percentage of Total Value	Pelts	Value	Percentage of Total Value
	No.	\$		No.	\$	
Newfoundland.....	128,110	1,402,918	3.9	98,029	1,140,514	2.6
Prince Edward Island.....	21,578	212,310	0.6	7,838	119,075	0.3
Nova Scotia.....	188,123	1,864,212	5.2	239,187	2,891,081	6.5
New Brunswick.....	49,619	341,132	1.0	33,318	407,107	0.9
Quebec.....	450,911	3,847,452	10.8	359,562	4,135,970	9.3
Ontario.....	1,029,408	8,938,771	25.0	1,220,493	12,028,924	27.0
Manitoba.....	736,363	4,791,837	13.4	919,130	6,589,341	14.8
Saskatchewan.....	659,113	2,308,657	6.5	721,303	3,317,478	7.4
Alberta.....	1,395,936	4,704,174	13.2	1,042,988	5,260,861	11.8
British Columbia.....	565,699	5,649,639	15.8	520,990	7,456,924	16.7
Yukon Territory.....	70,995	172,936	0.5	22,308	64,929	0.1
Northwest Territories.....	299,653	1,535,926	4.3	291,958	1,151,908	2.6
Canada¹.....	5,609,025	36,534,609	...	5,494,121	45,574,485	...

¹ Totals include pelts and values not allocated to a province or territory, mainly Alaska fur seal and Atlantic Coast hair seal.

Wild Fur Production.—The principal kinds of wild fur pelts taken, according to value, in 1965-66 were beaver, muskrat, seal and mink. These four kinds accounted for 79 p.c. of the total value of wild pelts produced, beaver alone accounting for 34 p.c.

Although the number of beaver pelts produced was somewhat reduced compared with the previous year, the average value per pelt increased from \$11.81 to \$15.40. In fact, the average value of every kind of pelt except otter and hair seal was higher in 1965-66 than in 1964-65, some, particularly fox and lynx, almost doubling.

3.—Pelts of Wildlife Fur Bearing Animals Taken, by Kind, Years Ended June 30, 1965 and 1966

Kind	1965			1966		
	Pelts	Total Value	Average Value	Pelts	Total Value	Average Value
	No.	\$	\$	No.	\$	\$
Badger.....	395	1,099	2.78	792	6,423	8.11
Bear—						
White.....	564	55,906	99.12	624	81,473	130.57
Black or brown.....	1,211	21,082	17.41	2,482	82,287	33.15
Grizzly.....	22	330	15.00	46	4,071	88.50
Beaver.....	415,261	4,905,277	11.81	372,635	5,739,147	15.40
Cougar.....	—	—	—	49	—	—
Coyote or prairie wolf.....	22,566	150,113	6.65	24,326	273,031	11.22
Ermine (weasel).....	180,259	222,999	1.24	178,672	240,356	1.35
Fisher.....	7,950	70,713	8.89	8,216	125,921	15.33
Fox—						
Blue.....	207	1,499	7.24	70	737	10.53
Cross and red.....	22,010	130,278	5.92	25,357	268,205	10.58
Silver.....	472	5,052	10.70	431	8,951	20.77
White.....	40,831	448,112	10.97	11,656	191,623	16.44
Not specified.....	71	455	6.41	38	528	13.89
Lynx.....	24,534	408,420	16.65	14,583	544,605	37.35
Marten.....	40,948	369,191	9.02	43,890	503,308	11.47
Mink.....	106,863	1,530,648	14.32	85,581	1,226,046	14.33
Muskrat.....	1,387,022	1,832,288	1.32	1,830,307	3,207,389	1.75
Otter.....	19,315	556,507	28.81	17,944	447,901	24.96
Rabbit.....	105,790	33,967	0.32	51,424	25,835	0.50
Raccoon.....	25,785	59,014	2.29	31,568	136,994	4.34
Seal—						
Fur, North Pacific ¹	13,462	762,922	56.67	16,797	1,009,933	60.13
Hair.....	252,627	2,716,121	10.50	229,142	2,128,900	9.29
Skunk.....	1,039	555	0.53	684	373	0.55
Squirrel.....	1,503,756	882,290	0.59	890,091	561,755	0.63
Wildcat.....	1,553	10,288	6.62	3,352	30,258	9.03
Wolf.....	866	14,315	16.53	1,085	24,301	22.40
Wolverine.....	518	8,760	16.91	411	9,953	24.22
Totals.....	4,175,897	15,198,201	...	3,842,253	16,880,304	...

¹ Commonly known as Alaska fur seal; value figures are the net returns to the Federal Government for pelts sold.

Fur Farm Production.—Mink accounts for over 99 p.c. of the total value of fur farm production. In 1965 the number of mink pelts taken continued upward, reaching 1,633,152 with a value of \$28,439,444. The number of all other types of pelts taken on fur farms was only 18,739 valued at \$255,961.

On the whole, there was little change in the number of fur farms operating in 1965 compared with 1964, some provinces reporting small increases and others small decreases. Mink farms increased in number from 2,122 to 2,171 and the number of animals on those farms at year-end was 769,322 compared with 699,573 a year earlier. Chinchilla farms increased in number from 472 to 560 and the number of animals from 49,352 to 62,658. In 1965, 110 farms raising nutria reported 3,924 animals and 39 farms raising fox had 333 animals, both slight increases over the previous year.

4.—Fur Farms and Value of Pelts Produced Thereon, by Province, 1964 and 1965

Province	Fur Farms at Year-End		Value of Pelts Produced on Fur Farms	
	1964	1965	1964	1965
	No.	No.	\$	\$
Newfoundland.....	34	33	414,573	513,693
Prince Edward Island.....	10	16	51,553	99,316
Nova Scotia.....	138	148	1,156,139	1,656,273
New Brunswick.....	34	34	87,443	156,702
Quebec.....	135	141	1,373,614	1,877,805
Ontario.....	758	757	6,056,436	8,045,732
Manitoba.....	196	184	3,116,506	4,366,702
Saskatchewan.....	142	139	1,389,940	1,812,763
Alberta.....	271	300	2,818,025	3,484,696
British Columbia.....	404	419	4,871,300	6,680,382
Totals.....	2,122	2,171	21,336,541¹	28,695,405¹

¹ Includes value of some pelts not allocated by province.

5.—Number and Value of Pelts Produced on Fur Farms, by Kind, 1964 and 1965

Kind	1964		1965	
	Pelts	Value	Pelts	Value
	No.	\$	No.	\$
Mink.....	1,416,085	21,126,989	1,633,152	28,439,441
Standard.....	359,587	5,257,163	451,879	7,532,823
Grey.....	38,590	520,578	34,779	673,321
Dark blue.....	62,137	1,004,755	59,575	1,235,585
Light blue.....	252,461	4,261,542	242,687	5,780,804
Brown.....	485,371	6,819,463	622,775	8,818,492
Beige.....	169,061	2,574,798	174,141	3,449,734
White.....	48,878	688,690	47,316	948,685
Chinchilla.....	12,846	168,756	17,146	225,788
Fox.....	780	33,829	527	28,041
Blue.....	24	1,041	65	3,459
Platinum.....	393	17,044	248	13,196
Silver.....	354	15,354	203	10,801
Other.....	9	390	11	585
Nutria.....	3,417	6,834	1,066	2,132
Totals.....	1,433,128	21,336,408	1,651,891	28,695,405

Exports and Imports.—The Canadian fur trade, both export and import, is mostly in undressed furs, the value of dressed and manufactured furs going out of or coming into Canada being a comparatively small proportion of the total. Canadian fur exports consist largely of those produced in greatest abundance, mink being by far the most valuable followed by beaver, muskrat, seal, fox, and squirrel. Mink, Persian lamb dressed seal, fox, muskrat and raccoon make up a large part of the imports. Exports and imports of furs, undressed, dressed and manufactured, to and from Britain, the United States and all countries, are given for the years 1965 and 1966 in Table 6.

6.—Exports and Imports of Furs, by Kind, 1965 and 1966

Kind of Fur	1965			1966		
	Britain	United States	All Countries	Britain	United States	All Countries
EXPORTS						
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Undressed—						
Beaver.....	744	2,290	3,937	937	2,636	5,329
Chinchilla.....	—	203	203	—	311	311
Ermine or weasel.....	203	71	274	160	53	217
Fisher.....	30	52	94	29	80	123
Fox, all types.....	38	1,038	1,305	81	732	954
Lynx.....	218	320	556	70	242	328
Marten.....	95	209	311	90	421	525
Mink.....	1,642	12,753	18,247	1,786	12,806	19,764
Muskrat.....	1,512	149	1,793	2,187	167	2,462
Otter.....	8	104	233	38	60	209
Rabbit.....	—	62	102	—	33	37
Seal.....	1,326	158	2,058	818	5	1,374
Squirrel.....	804	—	805	545	1	548
Wolf.....	11	108	124	50	52	104
Other.....	56	151	263	88	131	300
Dressed—						
Mink.....	4	80	328	7	46	193
Raccoon.....	—	1,039	1,047	—	324	342
Fur plates, mats, etc.....	2	5	22	11	3	20
Other.....	86	1,583	2,442	136	1,175	2,263
Fur goods apparel.....	1,282	747	6,053	1,891	2,002	9,260
Totals.....	8,061	21,122	40,197	8,924	21,280	44,663
IMPORTS						
	\$	\$	\$	\$	\$	\$
Undressed—						
China and Jap mink.....	15	2	242	111	14	644
Fox.....	1,118	513	2,454	1,435	338	2,464
Kolinsky.....	91	11	320	157	21	336
Mink.....	1,260	3,506	8,988	1,787	2,835	10,228
Muskrat.....	—	843	851	—	1,090	1,090
Persian lamb.....	542	1,447	4,049	262	1,018	2,424
Rabbit.....	—	150	200	—	89	202
Raccoon.....	—	1,529	1,539	—	1,371	1,380
Squirrel.....	10	1	71	1	5	48
Other.....	195	945	1,574	83	1,043	1,352
Dressed—						
Hatters' furs.....	—	149	377	—	323	592
Mink.....	6	530	543	16	636	658
Seal.....	13	2,035	2,199	20	2,143	2,407
Sheep and lamb.....	111	166	1,010	265	230	1,469
Fur plates, mats, etc.....	26	588	756	97	535	1,015
Other.....	154	514	799	318	564	1,154
Fur goods apparel.....	26	181	254	42	129	388
Totals.....	3,567	13,110	28,226	4,594	12,384	27,851

Subsection 2.—The Fur Processing Industry

The general term "fur processing" includes the fur dressing and dyeing industry and the fur goods industry. The former is concerned with the dressing or dyeing of pelts on a custom basis and the latter is a manufacturing industry that makes up fur goods such as coats, scarves and gloves. Tables 7 and 8 give selected statistics for these industries on the "total activity" basis (see Chapter XVI on Manufactures) for 1963-65. In 1965, 218,190 skins were treated, of which mink comprised 28 p.c., muskrat 17 p.c., Persian lamb 11 p.c., raccoon 16 p.c., sheep, shearing and other types of sheep 1 p.c., and all other types of skins 24 p.c.

7.—Principal Statistics of the Fur Dressing and Dyeing Industry, 1963-65

Item		1963	1964	1965
Establishments.....	No.	18	16	17
Administrative and Other Salaried Employees—				
Male.....	No.	72	68	85
Female.....	"	25	23	25
Salaries paid.....	\$	648,879	592,186	780,221
Production and Related Employees—				
Male.....	No.	763	641	689
Female.....	"	136	121	129
Wages paid.....	\$	3,368,466	3,155,044	3,469,059
Cost of materials used in manufacturing.....	\$	1,530,371	1,087,716	1,696,038
Pelts treated.....	No.	5,738,549	4,831,560	5,218,190
Amount received for treatment of furs and other manufacturing revenue.....	\$	7,013,118	6,559,077	7,927,031

The shipments of ladies' fur coats and jackets by all industries in 1965 numbered 141,878 and were valued at \$42,906,863.

8.—Principal Statistics of the Fur Goods Industry, 1963-65

Item		1963	1964	1965
Establishments.....	No.	419	433	406
Administrative and Other Salaried Employees—				
Male.....	No.	461	448	465
Female.....	"	174	183	179
Salaries paid.....	\$	3,448,066	3,492,936	3,505,702
Production and Related Employees—				
Male.....	No.	1,500	1,596	1,454
Female.....	"	813	804	727
Wages paid.....	\$	8,987,115	9,577,573	9,552,301
Cost of materials used in manufacturing.....	\$	38,405,020	39,661,314	41,217,554
Value of factory shipments and other manufacturing revenue...	\$	59,912,851	62,535,712	64,706,617
Total revenue.....	\$	61,946,676	64,514,747	66,892,159

Section 3.—Provincial and Territorial Fur Resource Management

Most of the fur resources of the provinces and territories of Canada are under the administration of their respective governments. Exceptions include those resources within the boundaries of the National Parks and the Indian reserves, which are under the administration of the Federal Government. The Canadian Wildlife Service of the Department of Indian Affairs and Northern Development is responsible for all Federal Government interests in wildlife resources except for those related to Indian affairs, which are administered by the Indian Affairs Branch of the same Department. The Canadian Wildlife Service co-operates with provincial governments and other agencies concerned and handles federal interests in relevant national and international problems (see pp. 46-47). Provincial fur resource management practices are discussed in the following paragraphs.

* Prepared by the respective provincial and federal departments responsible for fur resource management.

Newfoundland.—The wild fur industry in Newfoundland, as elsewhere, has been characterized by short-term instability and long-term decline. In general, the price of furs has declined in the past decade and, since the supply of trappers is partially determined by the profit motive, the number of trappers has also declined. As a result, the fur bearers of the province are now considered to be under-harvested.

Because trapping is no longer profitable for the casual trapper and only large harvests and excellent pelt preparation can repay a trapper for his effort, the maintenance of trapping in Newfoundland requires that the resource be divided among a select group of professional trappers. The beaver-trapline system in operation is a step in this direction. Other fur bearers of sufficient value to be included under the trapline system are mink, lynx, muskrat and otter. A fur bearer biologist was employed by the Wildlife Division of the provincial Department of Mines, Agriculture and Resources in 1966 and intensive research and management in this area is planned for the future.

Nova Scotia.—Nova Scotia's wild fur bearers include beaver, muskrat, mink, otter, fox, raccoon and weasel and the trapping of these animals provides supplementary income for several thousand persons who harvest from \$100,000 to \$200,000 worth of wild furs each year. The value, of course, depends on the numbers of each fur species available and on fur prices, both being subject to marked variations from year to year.

The beaver, once almost extinct in the province, is now the most available fur bearer taken. A \$2 licence is required by residents to trap a limited number of beavers (five to 20) during the approximately 10-week season beginning Nov. 1. No licence is required to trap other fur bearers, although a royalty must be paid to the province for each pelt exported. These animals may be taken between Nov. 1 and Jan. 15.

Beaver research is at present being carried on in Nova Scotia to increase knowledge of this valuable animal as a preparation for better management of its population. Behaviour, feeding, movement and reproduction studies are being conducted near the Tobieatic Sanctuary in western Nova Scotia, in Cumberland County in the eastern part of the province and in an enclosed area in Queens County. In addition, data on size, age, parasites and diseases are collected from beaver carcasses taken by trappers in all parts of the province.

Several trappers' associations have been started throughout the province so that the men closest to the fur resource may have some say in its wise use and management. These groups can also assist in ensuring proper handling and marketing of the raw furs and in up-grading quality, thus commanding good market prices.

New Brunswick.—The initial investigation under the fur management program under way in New Brunswick concerned the muskrat and was conducted in the estuary of the St. John River, one of the better muskrat areas in the province. Such investigation has been extended to other fur bearers, especially beaver. Beaver were protected against trapping for about 20 years until the first open season was declared in 1946. As a result, the beaver has made a remarkable recovery and there has been an open season each year since 1951, the annual take averaging about 7,500 pelts. At present, beaver damage done to farms and woodlots, highways and railways is causing concern.

The trapping of fisher and marten was permitted during the 1964-65 trapping season or the first time since 1946. These animals are found mainly in the northern part of the province but their numbers appear to be increasing and they are gradually working their way southward. During the late winter of 1966, a number of fisher were live-trapped in northern New Brunswick and released in the Fundy Mountains in an attempt to re-establish them there. Mink and otter are not abundant but in the fall trapping season the catches average from 1,500 to 2,000 and from 200 to 250, respectively. In 1965-66, 1,228 trapping licences were issued.

Provincial legislation enables quick changes to be made in trapping seasons; thus, the autumn benefit of available fur may be utilized by a trapper or a closed season

established on any fur bearer showing signs of serious depletion in numbers. A summary of trapping laws, which includes information on how the different pelts should be handled to receive the best price, is available from the Fish and Wildlife Branch of the provincial Department of Natural Resources.

Quebec.—The fur trade has been of considerable importance in Quebec since the beginning of New France and the province has remained in the forefront of fur producers. The principal native species, in order of importance, are beaver, mink, muskrat, hair seal, otter, lynx and marten.

Management of wild fur bearers began in 1932 with the establishment by an official of the Hudson's Bay Company of a privately leased reserve at Rupert House. The administration of this reserve passed to the Hudson's Bay Company and a second concession, at Nottoway, was granted to the Company in 1938. Strict conservation practices were enforced in these two reserves with such success that the provincial government took over their management and has since added steadily to the area of Crown lands set aside for Indian trappers. At present, 12 reserves are under conservation: Rupert House, 7,500 sq. miles (1932); Nottoway, 11,300 sq. miles (1938); Vieux Comptoir, 30,000 sq. miles (1941); Peribonca, 12,600 sq. miles (1941); Fort George, 17,700 sq. miles (1942); Abitibi, 6,000 sq. miles (1943); Great Victoria Lake, 6,300 sq. miles (1948); Mistassini, 50,000 sq. miles (1948); Manouane, 5,000 sq. miles (1951); Roberval, 20,000 sq. miles (1951); Bersimis, 21,000 sq. miles (1951); and Saguenay, 140,000 sq. miles (1955).

In 1945, a separate system of registered lands for white trappers was set up in the areas of Abitibi East, Abitibi West, Rouyn-Noranda, Témiscamingue, Pontiac and part of Saguenay County. Each leaseholder is granted exclusive trapping rights on his assigned land and each is subject to strict regulation. The trapping of fur bearers, other than beaver, is not restricted on either the reserves or the registered lands except for a general regulation concerning the protection of animals and the fixing of catch limits. Recently biological research has been undertaken to assess the results of this system.

In 1965-66, the value of the catch of wild furs in Quebec amounted to \$2,258,165—fraction of the value of the finished product.

Ontario.—Legislation for the management of wild fur bearers had its beginning in Ontario with the setting of seasons in 1860 by an Act of Upper Canada. However, 3 years passed before there was any field staff to enforce the regulations and then began a era of restrictive legislation to protect species threatened by the earlier exploitation. Progress beyond the restrictive enforcement of open and closed seasons has come about only in the past 20 or 30 years. The first steps in this direction involved the setting aside of special Indian hunting areas in which non-Indians were not allowed to trap.

The registered trapline system was introduced in 1935 on a very small scale. The system is based on government recognition of the desirability of full utilization of the resource and the more efficient management that results when one individual enjoys the exclusive right to trap on such an area. In its early stages, surveyed townships were assigned as trapline areas but more explicit trapline boundaries, established in 1947-48, now cover the province and mostly follow natural physiographical features. At the same time resident traplines were established in areas of patented land, which means most of southern Ontario; these are blocks of land on which trappers are licensed to trap, providing they make their own written agreements with the landowners. Trapline licences are renewed annually as long as the trapper meets the conditions of the regulations and continues to trap. Trappers may sell the equipment and improvements they have made on their line and thus have a vested interest in their traplines.

In full realization that fur is a natural resource that cannot in nature be stockpiled and is harvested on a commercial basis only, the Ontario Department of Lands and Forests has assisted the Ontario Trappers' Association to establish their fur auction at North Bay. This allows the trappers to sell furs on a competitive market and realize their full value.

Much valuable research has been carried out on fur bearers, with present emphasis on beaver and otter. Transplantings have been successfully carried out to speed the recovery of reduced populations, particularly with beaver. A new aging technique was perfected for beaver a few years ago and recently an aerial beaver survey technique has been developed.

Manitoba.—Trapping and trading in furs is Manitoba's oldest industry and the province produces some of the finest pelts on the world markets. The annual value of the wild furs averages around \$1,630,000.

As the northern areas of Manitoba became more accessible following the construction of the Hudson Bay Railway to Churchill, competition for fur and for trapping grounds became very keen and the fur resources were badly depleted. However, since 1940 a program of trapline registration has been in operation which has eliminated indiscriminate trapping and has offered protection to both the fur bearer and the trapline operator. The once-scarce beaver has been rehabilitated through years of controlled and managed harvests, production reaching 34,216 pelts during the 1965-66 season. A live transplant project has also been implemented to re-stock areas where beaver and marten have become depleted. During the past decade new records in the production of muskrat, mink, lynx, fisher and otter have been established.

The wild fur industry is still of economic importance in Manitoba, particularly so for northern residents, both white and native. A trapper education program was inaugurated in 1957, designed to improve the general handling of furs by trappers and at the same time achieve a certain measure of standardization in pelt care. This program has shown gratifying results and has been expanded to include improved trapping methods and the use of humane trap sets. A booklet, *The Trapper's Guide*, is available from the Wildlife Branch of the provincial Department of Mines and Natural Resources.

Manitoba has been working in close co-operation with federal and other provincial agencies in the promotion of quality furs by exhibiting collections of representative wild furs at the more important European fairs.

Saskatchewan.—Before 1945, little was done to control the trapping of beaver and muskrat in Saskatchewan, other than to establish closed seasons when the fur bearers became depleted from over-trapping, and the lack of a conservation and management policy had a disastrous effect on both the fur resources and the livelihood of trappers. In 1944, the provincial government set up a committee to study trapping problems and the following year the South Saskatchewan Muskrat Trapping Program was instituted. Under this plan, individuals received exclusive rights to trap on definite land locations. Owners and occupants received first consideration, with special priority given to Indians and metis on Crown lands. Muskrat quotas were established to assure continuing populations, and marketing of pelts under government supervision was instituted.

In 1946, under federal-provincial agreement, all Crown lands north of the 53rd parallel were set up as the Northern Fur Conservation Block. Up to \$50,000 a year was to be expended over the following ten years to establish and administer conservation areas, purchase equipment, pay salaries of personnel, transplant live beaver and build dams; the Federal Government agreed to assume 60 p.c. of the cost and the province the remainder. A Fur Advisory Committee, with representation from the provincial Department of Natural Resources and the federal Indian Affairs Branch was set up to supervise the program. Organization of conservation areas was left to the trappers. Five-man councils were elected in all districts, with Indian, metis and white trappers sharing privileges, obligations and responsibilities on an equal basis. Conservation measures and licensing regulations were initiated. In 1956 the agreement was extended for another ten years with minor changes and in 1962 a co-ordinating body was set up by the Fur Advisory Committee to promote better communications and understanding of the fur program. The second federal-provincial agreement terminated in 1966 and negotiations were begun on a new agreement that will carry on the same program and extend the resource manage-

ment features, the latter to be activated particularly by natives of northern isolated areas. The northern fur conservation program in Saskatchewan has served as an important vehicle to encourage these people to plan and carry out other programs vital to their own well-being.

During the two decades of the province's fur program, security of trappers has been strengthened; fur bearer population has reached a higher general level, particularly of beaver; quotas have put trapping on a sustained-yield basis; poaching has been almost eliminated; higher water levels resulting from the comeback of beaver have improved the habitat for other wildlife; and Indian, metis and white trappers are sharing alike in the self-government of trapping areas and in fur management programs.

Alberta.—Plans have been formulated for the reorganization of the Fish and Wildlife Division of the provincial Department of Lands and Forests. Under the new set-up, a fur management section will be established to work strictly on the fur resources of the province. More meetings will be held with registered trappers to increase the exchange of information between them and the Division's officers and a more intensive program is being initiated to eliminate as far as possible the misuse of trapping areas by certain trappers and, by amalgamation, to form trapping areas into better economic units. The Alberta Government submits pelts to the main fur exhibits in Canada and Europe, a policy that has increased the interest of foreign and Canadian buyers in Alberta furs.

British Columbia.—The British Columbia wild fur resource is administered by the Fish and Wildlife Branch of the Department of Recreation and Conservation. Regulations are derived under authority of the Wildlife Act and resource use is controlled under the registered trapline system, in effect since 1926. Registered traplines are areas of Crown land allotted, for the purpose of trapping wild fur, to trappers who are resident in the province. Registration of a specific trapline is renewable on an annual basis by the trapper, subject to certain requirements of tenure aimed at conservation and sustained yield of fur species. Approximately 3,000 trappers are involved in provincial wild fur production, of whom one half are Indians.

The market value of wild fur produced during the fur harvest of 1965-66 was \$889,332, with beaver, lynx, muskrat and mink together comprising 79 p.c. of this total value. The 1965-66 beaver harvest numbered 28,751 pelts.

CHAPTER XV.—ELECTRIC POWER*

CONSPECTUS

	PAGE		PAGE
SECTION 1. ELECTRIC POWER DEVELOPMENT..	659	SECTION 2. PROGRESS IN CONSTRUCTION OF GENERATING FACILITIES, 1966.....	670
Subsection 1. Historical and Current Trends in Power Development.....	659	SECTION 3. POWER GENERATING CAPABILITY AND LOAD REQUIREMENTS.....	673
Subsection 2. Utilization of Power.....	662	SECTION 4. ELECTRIC POWER STATISTICS.....	676
Subsection 3. Water Power Resources, Undeveloped and Developed.....	663	SECTION 5. PUBLIC OWNERSHIP AND REGU- LATION OF ELECTRICAL UTILITIES.....	680
Subsection 4. Thermal Power Generation..	667		
Subsection 5. Electric Power Transmission.	669		

*The interpretation of the symbols used in the tables throughout the Year Book
will be found on p. xvi of this volume.*

Section 1.—Electric Power Development

Subsection 1.—Historical and Current Trends in Power Development

Electric power development in Canada has undergone remarkable and sustained growth since the beginning of the century. From a modest 133,000 kilowatts of generating capacity installed at the end of 1900, Canada's installed hydro capacity rose to almost 22,700,000 kw. by the end of 1966 and thermal capacity to 8,700,000 kw.

The chart on p. 661 shows the expansion in installed generating capacity in hydro and thermal stations that has taken place since 1920. Thermal-electric power development in Canada was not well documented early in the century but it is apparent that its growth was slow and of relatively minor importance until the late 1940s. The rate of development of hydro facilities, on the other hand, tended to accelerate after the turn of the century when improvements in electric power transmission techniques were introduced and increasing emphasis began to be placed on the construction of large hydro-electric stations.

During the prosperous 1920s, demand for electricity became heavier and the rate of installation increased appreciably. Then, under the depressed conditions of the early 1930s, power demand dropped off but did not show up immediately as a drop in the installation rate because of the time lag inherent in hydro-electric power development. The completion of hydro projects initiated prior to the depression period accounted for the continuation of a high rate of capacity installation up until 1935; thereafter, poor economic conditions in the 1935-39 period resulted in a reduced rate.

In the early war years, the tremendous demand for power to drive Canada's war industries accounted for the sharp rise in installation of new generating facilities between 1940 and 1943, but in the later war years construction dropped off so that, from 1944 to 1947, a second flattening occurred in the growth curve. After the War, industrial expansion and rapidly growing residential and agricultural development placed extremely

* Sections 1 and 2 of this Chapter were prepared by the Water Resources Branch, Department of Energy, Mines and Resources, Ottawa; Sections 3 and 4 were revised by the Energy Statistics Section, Industry Division, Dominion Bureau of Statistics, and Section 5 by the various provincial Commissions concerned.

heavy demands on power generating facilities, to stay abreast of which the addition of new capacity was required at a rate higher than at any time in Canada's history. These demands also led to the start of an extensive program of thermal plant construction in the early 1950s, since they could not be satisfied from hydro sources alone. In the period 1950-66, the average annual rate of installation of both hydro and thermal facilities was about 1,400,000 kw., with hydro contributing two kilowatts of new capacity for each kilowatt contributed by thermal. However, it is interesting to note that the average increase in thermal generating capacity over the period 1961-66 has approximated the average increase in hydro capacity.

Table 1 shows the status of installed generating capacity in hydro and thermal stations and the combined total for all stations in Canada as at Jan. 1, 1967.

**1.—Installed Hydro- and Thermal-Electric Generating Capacity,
by Province, as at Jan. 1, 1967**

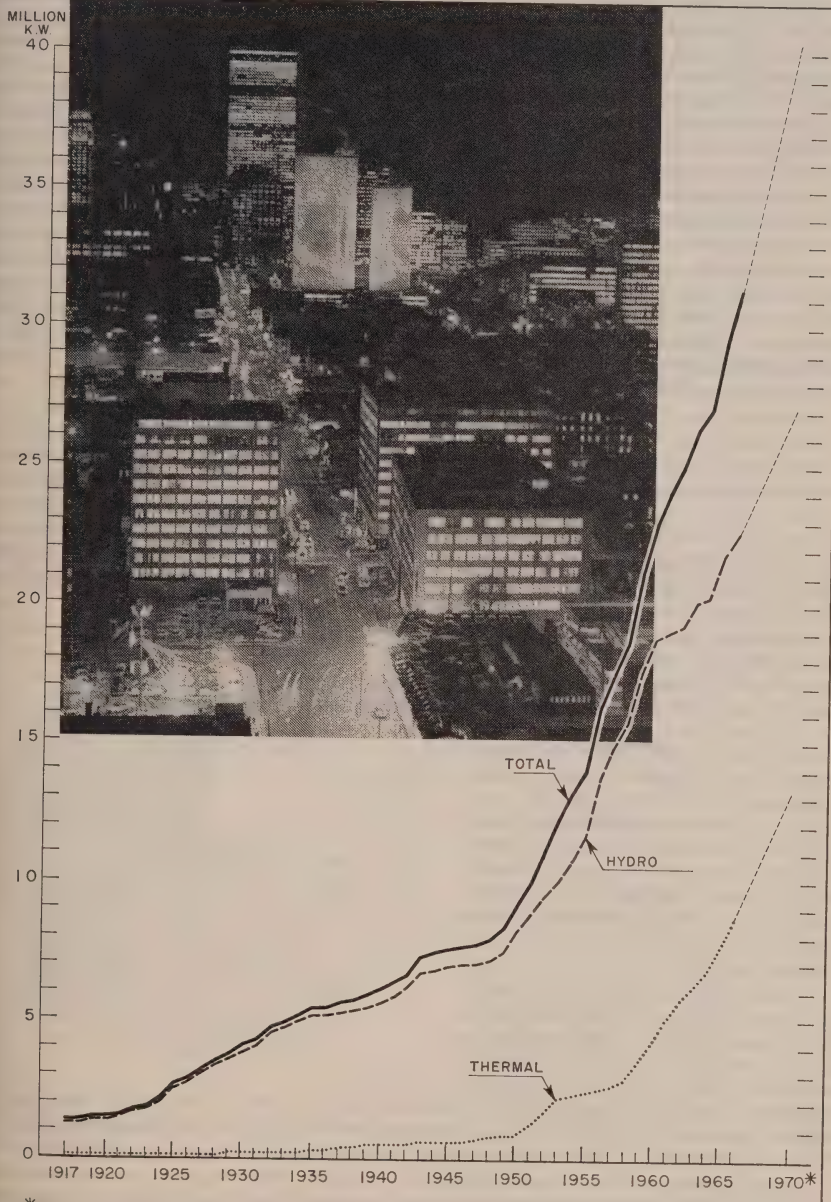
Province or Territory	Hydro	Thermal	Total
	kw.	kw.	kw.
Newfoundland.....	466,000	113,000	579,000
Prince Edward Island.....	—	57,000	57,000
Nova Scotia.....	143,000	525,000	668,000
New Brunswick.....	262,000	433,000	695,000
Quebec.....	10,746,000	441,000	11,187,000
Ontario.....	6,194,000	3,923,000	10,117,000
Manitoba.....	1,074,000	338,000	1,412,000
Saskatchewan.....	397,000	662,000	1,059,000
Alberta.....	617,000	1,096,000	1,713,000
British Columbia.....	2,695,000	1,083,000	3,778,000
Yukon Territory.....	28,000	4,000	32,000
Northwest Territories.....	35,000	27,000	62,000
Canada.....	22,657,000	8,702,000	31,359,000

Current Trends.—Although water power traditionally has been and still is the main source of electric energy in Canada, thermal sources some day will undoubtedly become the main supplier. The choice between development of a hydro-electric power site and construction of a thermal generating station must take into account a number of complex considerations, the most important of which are economic in nature. In the case of a hydro-electric project, the heavy capital costs involved in construction are offset by maintenance and operating costs considerably lower than those for a thermal plant. The long life of a hydro plant and the dependability and flexibility of operation in meeting varying loads are added advantages. Also important is the fact that water is a renewable resource. The thermal station, on the other hand, can be located close to the demand area, with a consequent saving in transmission costs. With the current trend to large steam stations, however, a certain amount of the flexibility of location of thermal stations is lost because such units require considerable quantities of water for cooling purposes, making it essential that they be sited close to an adequate water supply.

The marked trend to thermal development which became apparent in the 1950s can be explained in part by the fact that, by that time in many parts of Canada, most of the hydro-electric sites within economic transmission distance of load centres had been developed and planners had to turn to other sources of electric energy. More recently, however, advances in extra-high-voltage transmission techniques are providing a renewed impetus to the development of hydro power sites previously considered too remote.

Because of the relatively long starting-up time required by large thermal units, thermal stations tend to lack flexibility of operation and can be used most efficiently to meet continuous load conditions. Hydro stations, on the other hand, can put generating units on line with minimum delay and hence are admirably suited to supply power to meet the peak

GROWTH IN ELECTRIC POWER GENERATING CAPACITY IN CANADA, 1917-70



*PROJECTION

loads which may occur several times each day. By combining the advantages of both hydro and thermal stations in integrated supply systems, power producers are now achieving much greater flexibility of operation.

Another trend in development designed to meet the problem of varying daily loads is the use of pumped storage. An example is the Sir Adam Beck hydro development at Niagara Falls where water taken from the Niagara River above the Falls is carried by tunnel and power canal to penstocks which supply the main generating station on the bank of the Niagara River some distance below the Falls. In off-peak hours, power from the main station is used to pump water from the power canal into a reservoir maintained at a higher level; during peak-load hours, the pumps, which are dual-purpose units, operate as generators and are driven by water released from the reservoir. The pumping-generating units at this development make available an extra 176,700 kw. of generating capacity. A pumping-generating station using the same general principle is under construction on the Brazeau River in Alberta as part of the 338,440-kw. Big Bend hydro development.

Perhaps the most promising application of the pumping-generating principle is its use in conjunction with nuclear power stations. Nuclear units, in common with the larger conventional thermal units, can be used most efficiently under conditions of continuous operation. Off-peak nuclear power can be used to operate pump-turbine units and the hydro-electric power derived from operating the units as generators is available for use during periods of peak demand.

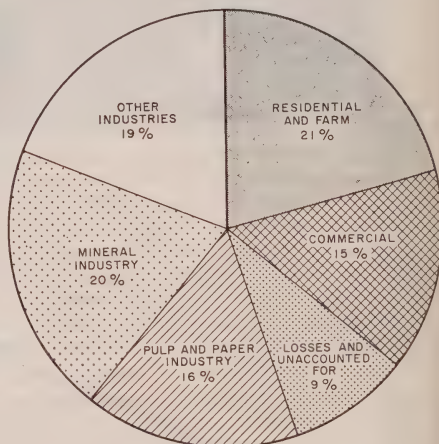
Subsection 2.—Utilization of Power

In 1966, Canada's generating facilities produced a total of 157,682,973,000 kilowatt-hours of electric energy, after allowing for the energy used in the power stations themselves. Of this total, 130,063,836,000 kwh. was produced in hydro-electric stations and 27,619,137,000 kwh. in thermal stations. Energy exported to the United States exceeded by 1,252,471,000 kwh. the energy imported from the United States during the year, bringing to 156,430,502,000 kwh. the total energy made available. The diagram illustrates how this energy was used.

Industry uses approximately 55 p.c. of the total electric energy made available in Canada; residential and farm use accounts for 21 p.c. and commercial use 15 p.c. The remaining 9 p.c. is listed under "losses and unaccounted for". Because many power producers do not distinguish in their records between residential and farm customers, the amount of energy used is shown as a combined total. Energy used for street lighting represents less than 1 p.c. of the total energy made available and is included in the "commercial" category.

About 20 p.c. of the total energy made available in Canada is used in the mineral industry, including smelting and refining, 16 p.c. by the pulp and paper industry and 19 p.c. by other industries. Of the latter, the chemical industry and the primary iron and steel industry together consume almost one half. Approximately 75 p.c. of the energy consumed by the mineral industry is used in the smelting and refining of metals.

The incidence of large water power resources in those regions in which the more important mineral deposits have been found has greatly facilitated mining development. Recent examples are the nickel mining and refining complex at Thompson, Man., which



uses hydro-electric power generated in the Kelsey plant on the Nelson River, and the iron ore mining operations in Labrador, supplied by the Twin Falls plant on the Unknown River. Metal mining, a very important division of the Canadian mining industry, is carried on mainly in two physiographic regions, the Western Cordillera and the Canadian Shield. In the Western Cordillera, the mountainous topography and the relatively high amounts of precipitation favour the development of water power. In the Canadian Shield, which is a Precambrian formation stretching in a wide sweep around Hudson Bay from the Mackenzie River basin to the eastern tip of Labrador, heavy glaciation in recent geological times has formed river systems which are comparatively young and are characterized by large numbers of lakes connected by short river sections with numerous rapids and falls suitable for the development of hydro-electric power.

Canada has no known deposits of bauxite but the availability of low-cost hydro-electric power has fostered the establishment of a large aluminum industry which produces mainly for export to world markets. Further evidence of the value of water power to mining operations is provided by the fact that Canada's asbestos industry, which produces about 40 p.c. of the total world supply of asbestos, obtains the major part of its power supply from hydro-electric sources.

Canada's pulp and paper industry is one of the world's great industrial enterprises. Total mill capacity for the production of newsprint paper is considerably greater than that of any other country in the world, and in total production of wood pulp Canada is second only to the United States. The fact that over 90 p.c. of the manufactured newsprint is exported gives some indication of the importance of the industry to the Canadian economy. By far the larger portion of the energy used in the pulp and paper industry is derived from water power.

Subsection 3.—Water Power Resources, Undeveloped and Developed

Table 2 presents a summary of developed water power in Canada and an estimate of undeveloped water power potential, based on records maintained by the Inland Waters Branch of the Department of Energy, Mines and Resources. Estimates of available power are shown for undeveloped sites only; for developed sites, the total generating capacity actually installed is indicated. It should be noted that the capacity installed at an existing hydro-electric development is frequently in excess of the continuous power available at the site. The relationship between installation and available power is explained on p. 664.

2.—Water Power Resources, by Province, as at Jan. 1, 1967

Province or Territory	Undeveloped Water Power			Developed Water Power
	Available Continuous Power at 88 p.c. Efficiency			Installed Generating Capacity
	at Q95 ¹	at Q50 ²	at Qm ³	
	kw.	kw.	kw.	kw.
Newfoundland.....	1,240,000	3,635,000	4,871,000	466,000
Prince Edward Island.....	—	1,000	2,000	—
Nova Scotia.....	21,000	112,000	165,000	143,000
New Brunswick.....	62,000	221,000	497,000	262,000
Quebec.....	8,027,000	27,788,000	36,576,000	10,746,000
Ontario.....	467,000	1,102,000	1,663,000	6,194,000
Manitoba.....	2,964,000	5,501,000	5,853,000	1,074,000
Saskatchewan.....	773,000	1,298,000	1,559,000	397,000
Alberta.....	895,000	3,244,000	4,866,000	617,000
British Columbia.....	4,946,000	16,635,000	24,665,000	2,695,000
Yukon Territory.....	664,000	3,237,000	5,689,000	28,000
Northwest Territories.....	864,000	2,232,000	3,322,000	35,000
Canada.....	20,923,006	65,006,000	89,728,000	22,657,000

¹ Power equivalent of flow available 95 p.c. of the time.

³ Power equivalent of arithmetical mean flow.

² Power equivalent of flow available 50 p.c. of

Undeveloped Water Power Resources.—Table 2 gives estimates of undeveloped power based on different rates of flow: the first column indicates continuous power ordinarily available during periods of low discharge under existing conditions of river flow based on Q95, which is the natural or modified flow available 95 p.c. of the time; the second column shows dependable maximum power based on Q50, which is the natural or modified flow available for at least 50 p.c. of the time; and the third column shows dependable maximum power based on Qm, the arithmetical mean flow. On rivers for which flow records are sparse or non-existent, estimates of flow are made from available information relating to run-off in the same general area. The hydraulic head used in calculating undeveloped water power is based on the actual drop or the feasible concentration of head which has been measured or carefully estimated. Preliminary figures for Quebec supplied by the provincial Department of Natural Resources, however, reflect the net river power potential which would result from development of the entire head available on Quebec rivers whose drainage areas exceed 3,000 sq. miles.

It should be emphasized that the figures of continuous power at Q95 represent only the minimum water power possibilities in Canada because estimates are based upon existing river flow and, for the most part, do not reflect the benefits of streamflow regulation that would result from the development of storage potential. Partial regulation is required in most instances to obtain the continuous power available at Q50. On the other hand, the arithmetical mean flow figures represent the power that would be obtainable if the entire flow in the river could be regulated to provide a continuous flow of constant magnitude. It can readily be seen that, because the latter condition assumes complete regulation, estimates of potential based upon arithmetical mean flow will, if other pertinent factors are neglected, exceed the amount of capacity that might be expected to be installed at the site, particularly where little or no storage is available. However, recent experience in the development of water power sites has indicated that, in fact, the generating capacities installed at many sites are very considerably in excess of what might be dictated by even the arithmetical mean flow. Several major river-diversion possibilities exist, particularly in British Columbia. For this reason, the estimates of potential of British Columbia's undeveloped hydro resources have recently been boosted substantially, mainly because of the inclusion of figures based upon the diversion of rivers which, if they are developed at all, will almost certainly be developed on a combined-river basis.

Developed Water Power Resources.—The figures of installed generating capacity given in Table 2 are based on the manufacturer's rating in kilowatts as shown on the generator name-plate, or derived from the rating where it is indicated in kilovolt-amperes. The maximum economic installation at a power site can be determined only by careful consideration of all the conditions and circumstances pertinent to its individual development. It is usual practice, however, to install units having a combined capacity in excess of the available continuous power at Q50, and frequently in excess of the power available at Qm. There are a number of reasons for this. The excess capacity may be installed for use at peak-load periods, to take advantage of periods of high flow, or to facilitate plant or system maintenance. In some instances, storage dams have been built subsequent to initial development to smooth out fluctuations in river flows. In other cases, deficiencies in power output during periods of low flow have been offset by auxiliary power supplied from thermal plants, or by inter-connection with other plants which operate under different load conditions or are located on rivers with different flow characteristics.

Thus, the extent to which the installed capacity exceeds the available continuous power at the various rates of flow is dependent upon the factors that govern the system of plant operation, and varies widely in different areas of the country. In some developments, the difference may amount to several hundred per cent. For this reason, discretion should be used in comparing the figures in the last column with those in the preceding columns, as available continuous power and installed capacity are not direct

comparable. As a rough guide, however, it may be assumed that the power equivalent of the flow at Q50 represents an approximate, if conservative, estimate of hydro generating capacity remaining to be installed in Canada.

Provincial and Territorial Distribution.—The provincial and territorial distribution of undeveloped water power resources and installed generating capacity, given in Table 2, reveals that substantial amounts of water power have been developed in all provinces except Prince Edward Island, where water power resources are meagre. As natural resource development proceeds, the fortunate incidence of water power in proximity to mineral, forest and other resources becomes increasingly apparent. There is little doubt that the existence of large amounts of potential hydro power on northern rivers will prove to be a factor of prime importance in the eventual realization of the natural wealth of Canada's Northland.

The water power resources of *Newfoundland*, determined on the basis of the limited available streamflow data, are estimated to be of very considerable magnitude. On the island, although the length of the rivers is generally not great, topography and run-off are favourable for hydro-electric power development. Of the substantial capacity installed, a very large portion serves the pulp and paper industry. In Labrador, the Churchill River and its tributaries, now under development, constitute one of the largest potential sources of water power in Canada.

In *Prince Edward Island* there are no large streams and water power plants are limited in size to those used to operate small mills. The water power resources of *Nova Scotia* and *New Brunswick*, although small in comparison with those of other provinces, are a valuable source of energy and make a substantial contribution to the economies of the two provinces. Numerous rivers in both provinces provide moderate-sized power sites either within economic transmission distance of the principal cities and towns or advantageously situated for use in development of the timber and mineral resources. These provinces are also favoured with abundant indigenous coal supplies.

Quebec is the richest of all the provinces in water power resources, possessing more than 40 p.c. of the total recorded for Canada. Quebec also leads in developed water power, its present installation of 10,746,000 kw. representing about 47 p.c. of the national total. The largest single hydro-electric installation in Canada is the Quebec Hydro-Electric Commission's 1,574,260-kw. Beauharnois development on the St. Lawrence River; also notable are the Commission's Bersimis I development on the Bersimis River having an installed capacity of 912,000 kw., and the Aluminum Company of Canada Limited's 42,500-kw. Chute des Passes plant on the Peribonca River. A major power project which represents a significant advance in the development of Quebec's hydro-electric resources is under construction. This project, involving the harnessing of the headwaters of the Manicouagan and Outardes Rivers, will permit the eventual installation of some 800,000 kw. on the two rivers. Power production in the province is facilitated by the regulation of streamflow by the provincial Department of Natural Resources through the storage dams which it owns and operates. In 1965, some of the responsibility for regulation was transferred to the Quebec Hydro-Electric Commission.

Almost all of the sizable water power potential in *Ontario* within easy reach of demand centres has been developed and planners are looking to the more remote sites as new sources of supply. Improvements in long-distance transmission techniques have brought many of these sites within the economic orbit of demand centres. Several sites are being developed and a number of others are under investigation. Most of the hydro-electric power produced in the province comes from the generators of The Hydro-Electric Power Commission of Ontario, Canada's largest power producing and distributing organization. Ontario's largest hydro-electric generating station is located on the Niagara River at Queenston, where the Sir Adam Beck-Niagara Generating Stations Nos. 1 and 2 and the

associated pumping-generating station have a combined generating capacity of 1,804,200 kw. In addition to the power generated in its own plants, the Commission purchases large amounts of electric power generated outside the province, chiefly in Quebec.

Of the three Prairie Provinces, *Manitoba*, with immense hydro-electric capabilities on the Winnipeg, Churchill, Nelson and Saskatchewan Rivers, is the most generously endowed with water power resources. Until recently, hydro-electric generating stations on the Winnipeg River supplied most of the power requirements of southern Manitoba. Manitoba Hydro's high-voltage, long-distance transmission lines, however, will carry ever-increasing amounts of power south from hydro-electric stations on northern rivers to help meet the province's constantly growing power demands. Large water power resources exist in the central and northern parts of *Saskatchewan*, principally on the Churchill, Fond du Lac, and Saskatchewan Rivers. In 1963, power from Squaw Rapids, the first hydro development on the Saskatchewan River, was fed into the transmission network of the provincially owned Saskatchewan Power Corporation, which serves the more settled areas of the province. These areas previously had been served by electric power from thermal plants fuelled by coal, oil or natural gas, the hydro-electric power generated in the province being used almost exclusively for mining purposes in northern areas. In *Alberta*, most of the principal hydro-electric developments are located on the Bow River and its tributaries and, from these developments, Calgary Power Ltd. serves most of the southern part of the province. In 1965, energy from a large hydro-electric unit on the Brazeau River in the headwaters of the North Saskatchewan River came on line, augmenting the energy from the Bow River plants. Substantial water power resources are located in the northern regions and, although these are somewhat remote from present centres of population, the advent of extra-high-voltage transmission has enhanced the prospect of their development.

British Columbia has many mountain streams that offer abundant opportunity for the development of hydro-electric power. In terms of recorded available water power resources, developed and undeveloped, the province ranks second in Canada and is exceeded only by Quebec and Ontario in the amount of generating capacity installed. Notable for the magnitude of their power potential are such rivers as the Columbia, the Fraser, the Peace and the Stikine. Up to the present time, however, hydro-electric developments on smaller rivers in the southern areas have satisfied the major load requirements of the province but now the immense power resources of the Peace River are in process of being harnessed and by 1968 will supplement the energy supply. Development of the Columbia River, now well under way, is designed to provide initially three huge storage reservoirs and eventually to make available a significant amount of 'at site' power in the Canadian portion of the basin. The foremost producer and distributor of electric power in British Columbia is the provincially owned British Columbia Hydro and Power Authority.

Power from present developments in the *Yukon Territory* and the *Northwest Territories* is used almost exclusively to satisfy the needs of local mines and adjacent settlements. Owing to the lack of developed native fuel sources and to transportation difficulties, water power is of special importance in the development of mining areas, such as Mayo in the Yukon Territory and Yellowknife in the Northwest Territories. The Northern Canada Power Commission, a federal Crown corporation (see p. 148), is responsible for the construction and management of public utility plants. In Yukon Territory, most of the resources are located on the Yukon River and its tributaries. The possibility exists of diverting the headwaters of the Yukon River through the Coast Mountains to utilize a high head near tidewater in northern British Columbia but such a development would affect adversely the potential of sites on the main river. Resources in the Northwest Territories have not been surveyed to the same extent as those in Yukon Territory but they are nevertheless known to be of considerable magnitude, particularly on rivers flowing into Great Slave Lake. Of major significance, as well, is the hydro-electric potential of the South Nahanni River, which drains to the Mackenzie River via the Liard

River. On the basis of preliminary investigations, it is estimated that, with total regulation and complete use of the head susceptible of development, the hydro-electric potential of the South Nahanni River would be close to 1,000,000 kw. Indications are that the rivers draining the District of Keewatin, north of Manitoba, could also contribute materially to the total power potential of the Northwest Territories.

Subsection 4.—Thermal Power Generation

The incidence of immense water power resources in Canada and the brisk pace of their development has tended to overshadow the very considerable contribution being made by thermal energy in the nation's power economy. At the end of 1966, the total installed thermal capacity in Canada was 8,704,000 kw., about 28 p.c. of the total electric generating capacity in the country. The fact that energy produced in thermal plants during the year accounted for only 18 p.c. of the total may be attributed in part to the fact that a considerable amount of the capacity installed is maintained for stand-by purposes. Emphasis on thermal plant construction is likely to become more marked as development of the nation's water power reserves becomes more complete.

Conventional Thermal Power.—Approximately 85 p.c. of all of the conventional thermal power generating equipment in Canada is driven by steam turbines. The magnitude of the loads being carried by steam plants has led to the installation of steam units with capacities as high as 300,000 kw. Even larger units, of 500,000-kw. capacity, will go into service within the next two or three years. The remainder of the load is carried by gas turbine and internal combustion equipment. The flexibility of internal combustion engines makes this type of equipment particularly suitable for meeting power loads in smaller centres, especially in the more isolated areas.

Table 1 (p. 660) shows that the Provinces of Prince Edward Island, Nova Scotia, Saskatchewan and Alberta depend on thermal capacity for most of their power requirements and that New Brunswick has slightly more thermal than hydro. For Ontario, where hydro capacity is now about twice the thermal, forecasts based on present construction schedules indicate that by the early 1970s total installed thermal capacity will have overtaken hydro.

With the exception of several large plants in St. John's and Grand Falls, most of the thermal-electric capacity in Newfoundland is made up of relatively small units used to supply power to small, often isolated communities. With the wealth of water power readily available in the province, it is not likely that Newfoundland will have need for large thermal stations for some time to come. In Prince Edward Island, almost all the generating capacity is oil-fuelled; in Nova Scotia, most of the energy generated in thermal-electric utility plants is derived from coal and the remainder from petroleum fuels; and in New Brunswick petroleum fuels provide slightly more than half of the thermal-electric energy.

The abundance of Quebec's water power wealth, much of it within economic transmission distance of existing demand areas, has so far limited the application of thermal power to specific local use. However, the growing emphasis on thermal power in other parts of Canada is also beginning to be apparent in Quebec, where thermal capacity will serve not only to help guarantee an adequate power supply in the face of increasingly heavy demands but also to render the almost exclusively hydro-electric base more flexible through integrated operation. Quebec's largest thermal plant, the 300,000-kw. Tracy Station near Sorel, was doubled in generating capacity in 1967. Quebec's first nuclear station, on the south shore of the St. Lawrence River between Gentilly and Bécancour, is scheduled for service in 1971 with 250,000 kw. of electric generating capacity.

Ontario has more thermal capacity than any other province in Canada; capacity installed at the end of 1966 totalled 3,922,836 kw., which was about 45 p.c. of the national total. The 2,900,000 kw. of conventional thermal capacity and 1,080,000 kw. of nuclear thermal capacity scheduled for service in the period 1967-71 will increase considerably

this province's share of the national total. Canada's largest thermal station is Ontario Hydro's Lakeview generating station at Toronto, which has a capacity of 1,500,000 kw. made up of five 300,000-kw. units, the largest in operation in Canada. This station will be expanded to 2,400,000 kw. by 1968. Four units of 500,000-kw. capacity are planned for the Lambton station near Sarnia, installation of which will be completed in 1971.

Manitoba supplements its predominantly hydro-based power supply with a substantial amount of thermal capacity but current emphasis is on development of water power resources. Saskatchewan, until recently, has relied on thermal capacity to satisfy the needs of the more settled areas and hydro-electric power generated in the province has been used almost exclusively for mining purposes in the northern areas. In the past few years, however, development of storage on the South Saskatchewan River has made hydro-electric power available in the southern part of the province and plans for expanding the province's thermal capacity are limited for the present to a proposed extension to the 132,000-kw. Boundary Dam thermal station. The incidence of vast fuel resources accounts for the emphasis on thermal power generation in Alberta; the province's largest thermal plants are the 405,000-kw. gas turbine and steam station at Edmonton and the 282,000-kw. Wabamun steam station.

More than half of British Columbia's thermal generating capacity is installed in three plants located in the Vancouver area. The capacity of the largest of these plants, the 486,000-kw. Burrard generating station, is expected to be increased to 810,000-kw. by 1968.

Until recently, most of the power requirements of the Northwest Territories were satisfied from thermal sources but the commissioning of the Twin Gorges hydro station on the Taltson River in 1965 altered the balance in favour of hydro. In Yukon Territory, hydro is the larger contributor. Most of the thermal-electric energy in the Territories is generated by small diesel units.

Nuclear Thermal Power.—Commercial electric power generated from the heat of nuclear reaction became a reality in Canada in 1962 when the 20,000-kw. Nuclear Power Demonstration station at Rolphton, Ont., fed power for the first time into a distribution system in Ontario. The NPD station is the forerunner in a series of large nuclear stations that will shoulder more and more of Canada's rapidly growing power loads.

Research into reactor design and the application of nuclear energy in the electric power field are among the more important responsibilities of Atomic Energy of Canada Limited, a Crown company incorporated in 1952 (see also pp. 411-416). AECL has concentrated its efforts on the development of the CANDU reactor, which uses natural uranium as a fuel and heavy water as the moderator. By using heavy water as the moderator, a high energy yield can be obtained from natural uranium and, since natural uranium is a low-cost nuclear fuel, the cost of fuel is a minor component in the cost of producing power. Natural uranium has the added attraction of being available in commercial quantities in Canada.

The Canadian nuclear power reactor also offers the simplest of nuclear fuel cycles. Sufficient energy can be extracted from the fuel so that the economics of the system do not require a value to be placed on the spent fuel. There is, therefore, no need to carry out costly chemical processing of the spent fuel unless the worth of the remaining contained fissile material becomes sufficiently high to make chemical processing an economic proposition. The spent fuel is an ideal package for simple underwater storage and no large volume of highly radioactive liquids from a chemical processing plant has to be handled and contained.

The NPD station has been used extensively to demonstrate the ability of the system to operate at a high capacity factor and to determine the nature and predictability of outages. Fuel changes while the system is in operation have become routine and a considerable amount of research into the sources of heavy water losses has been carried out. As a result of this research, losses have been cut down and the NPD station is demonstrating that a very acceptable heavy water loss rate is attainable.

At Douglas Point on the shore of Lake Huron, the country's first full-scale nuclear power station went into commercial production at the end of 1966. The station, built with the co-operation of Ontario Hydro, houses a 200,000-kw. CANDU reactor. Experience gained in the design and operation of this reactor has encouraged the development of even larger units and construction of the two-unit, 1,080,000-kw. Pickering nuclear station is under way near Toronto, with in-service dates for the two units scheduled for 1970 and 1971.

A further step in the development of the CANDU reactor is the use of boiling light water instead of pressurized heavy water as the coolant. This change offers further reductions in unit energy costs. Quebec's proposed Gentilly nuclear station on the south shore of the St. Lawrence River near Trois-Rivières will utilize boiling light water in its CANDU reactor. This station is scheduled for service in 1971 with 250,000 kw. of nuclear-electric capacity.

Subsection 5.—Electric Power Transmission

The nature of the loads handled by the small, widely scattered generating systems in the early days of the electric power industry in Canada did not warrant the expense of interconnecting power systems. However, as the demand for dependable electric power increased and improved techniques reduced power transmission costs, the benefits of integrating power systems to achieve reliability of service and flexibility of operation were re-appraised.

The number of amalgamations of small systems into larger operating groups has increased steadily and today most of Canada's generating stations are components of large, integrated and often interconnected power systems operated by power utilities and companies in the various provinces.

Constant research in the field of power transmission has developed techniques that enable power producers to develop hydro-electric sites previously considered beyond economic transmission distances. Most noticeable, perhaps, is the progressive stepping up of transmission line voltages. In Canada, there are a number of transmission lines designed for operation at 500,000 volts. A 574-mile, 500,000-volt line is being constructed to carry power from the Peace River to the lower mainland of British Columbia. In Ontario, a 435-mile, 500,000-volt line was completed in 1966 from hydro-electric plants in the James Bay watershed to Toronto. In 1965, power was carried for the first time at 35,000 volts when the 375-mile transmission line between Quebec's Manicouagan-Outardes hydro complex and the cities of Quebec and Montreal went into operation.

Although at present power is transmitted exclusively as alternating current (a.c.), Canadian producers are considering the advantages of carrying power at high voltages over long-distance direct current (d.c.) lines. One such transmission line with a rating of $\pm 260,000$ volts is expected to be placed in service in 1968 to augment an existing a.c. line between Vancouver Island and the mainland.

The search for economies in transmission systems has led to changes not only in materials used but also in tower erection and cable-stringing methods. Guyed aluminum T-shaped and Y-shaped transmission towers are being used increasingly in place of self-supporting towers where the terrain is suitable, and erection costs are being reduced by the use of helicopters to transport tower sections to the site and for tower assembly. The use of helicopters for spraying in brush control on the right-of-way and for line inspection and maintenance is becoming more widespread.

At present, domestic interconnections of from 66,000 volts to 230,000 volts exist between systems in Alberta and British Columbia; Saskatchewan, Manitoba and north-western Ontario; the interconnected northeastern and southern Ontario systems and Quebec; and between New Brunswick and Nova Scotia. Important international interconnections exist between British Columbia and the State of Washington; Ontario and the State of Michigan; Ontario and the State of New York; Quebec and the State of New York; and New Brunswick and the State of Maine.

Section 2.—Progress in Construction of Generating Facilities, 1966

During 1966, Canada's electric power generating capacity increased by 1,922,000 kw.: thermal capacity, which includes nuclear electric, accounted for 1,059,000 kw.; and the remaining 863,000 kw. was installed in hydro plants. In terms of the amount of generating capacity installed in one year in Canada, 1966 ranks third; the years of greater installation were 1959 and 1965 when 2,500,000 kw. and 2,200,000 kw., respectively, were placed in service. The new capacity placed in service in 1966 raised Canada's total generating capacity to 31,400,000 kw., consisting of 22,700,000 kw. hydro and 8,700,000 kw. thermal.

Present estimates indicate that more than 2,350,000 kw. of new generating capacity will go into service during 1967, 1,600,000 kw. thermal and 750,000 kw. hydro. Including the capacity scheduled for 1967, Canada's power producers have under construction or have scheduled within the next few years a total of 23,300,000 kw. of new capacity 13,900,000 kw. hydro and 9,400,000 kw. thermal.

Newfoundland.—In Newfoundland, construction of 39,908 kw. of new thermal generating capacity was completed before the end of 1966 and construction of 559,000 kw. of hydro-electric generating capacity was continuing. Of great significance was the announcement, late in 1966, of the start of construction of some 4,500,000 kw. of hydro electric capacity on the Churchill River in Labrador.

The capacity brought into service in 1966 consisted principally of a 25,000-kw. gas turbine unit installed at the Bowater Power Company's plant in Corner Brook and a 12,500-kw. unit at the new Holyrood gas-turbine plant of the Newfoundland and Labrador Power Commission. Construction on the Commission's Bay d'Espoir hydro development continued during 1966 with 229,500 kw. of hydro-electric capacity scheduled for service in 1967 and a further 229,500 kw. later. Construction plans by the Churchill Falls Power Corporation Limited for the 4,500,000-kw. Churchill River hydro station calls for power from the first units to be available in 1971-72 and installation of other units as demand for power increases; this station, when completed, will be one of the world's largest hydro developments.

Nova Scotia.—In Nova Scotia, electric generating capacity totalling 36,000 kw. was commissioned in 1966, 27,750 kw. is expected to come into service in 1967 and another 230,000 kw. is proposed for installation later.

The capacity of the Nova Scotia Power Commission's Glace Bay thermal plant on Cape Breton Island was boosted to 108,000 kw. in 1966 following installation of a 36,000 kw. unit. In 1967, the capacity of the Commission's Weymouth Falls hydro plant on the Sissiboo River will be doubled by the addition of a 9,000-kw. unit, and Scott Maritime Pulp Limited will begin operation of its new single-unit 18,750-kw. thermal plant at Abercrombie Point. Proposed for installation subsequent to 1967 at the Commission's Trenton and Point Tupper thermal plants are units of 150,000 kw. and 80,000 kw., respectively.

New Brunswick.—New Brunswick's total electric generating capacity was increased by 110,000 kw. in 1966, 110,500 kw. remained under construction for service in 1967 and another 1,100,000 kw. is either planned or under construction for completion later.

A 110,000-kw. unit at the New Brunswick Electric Power Commission's Courtenay Bay thermal plant was brought into service in 1966, raising the plant's capacity to 173,000 kw.; another 110,000-kw. unit is scheduled for initial service at the Courtenay Bay plant in 1967. At the Commission's Mactaquac hydro-electric development on the St. John River, six 100,000-kw. units are being installed, the first unit to be in service about the end of 1967, the second and third in 1968 and the other three by 1976. The Commission has completed site surveys for a new thermal plant at Dalhousie; ultimate capacity will be 500,000 kw. with the first of five units to be in service by late 1967. A 500-kw. unit for the Commission's Milltown hydro development on the St. Croix River was being installed for service in 1967.

Quebec.—In 1966, Quebec's extensive program of power-plant construction added 404,040 kw. of new capacity to the province's already considerable total of almost 11,000,000 kw. The new capacity is all hydro-electric. A total of 562,870 kw. of new capacity is scheduled for 1967, 300,000 kw. of which will be thermal and 262,870 kw. hydro. On the basis of present scheduling, nearly 5,000,000 kw. of new capacity, most of it hydro, should come into service in Quebec during the years 1968-74.

One of North America's most spectacular engineering projects, the harnessing of the power potential of the Manicouagan and Outardes Rivers, went ahead on schedule during 1966. The project involves the construction of seven hydro plants on the two rivers and the installation of additional capacity at an existing station. The total amount of new generating capacity to be made available by the Manicouagan-Outardes project will be in excess of 5,500,000 kw. Manic 2, eleven miles from the mouth of the Manicouagan River, went into operation in 1965 with 635,000 kw. of generating capacity in five units; two more units were installed in 1966, increasing the plant generating capacity to 888,300 kw. A final unit is scheduled for installation in 1967. Manic 1 went into service in 1966 with two units, each rated at 61,470 kw.; a third unit will complete the development in 1967. The largest development in the Manicouagan-Outardes hydro complex is Manic 5, designed for a total generating capacity of 1,344,000 kw. in eight units. When completed, the buttressed, multi-arch dam at Manic 5 will be over 4,000 feet long and 703 feet high at the highest point above bedrock and will be one of the highest and most massive dams of its kind in the world. First power is expected in 1970 and completion of the plant in 1972. Last of the new Manicouagan plants to come into service in the current program will be Manic 3, with a total generating capacity of 1,120,000 kw. in seven units; initial service is scheduled for 1972 and completion of the plant for 1974.

On the Outardes River, power at Outardes 4 will be generated by four 158,000-kw. units, the first three of which will be in service in 1968 and the fourth in 1970. The dam at Outardes 4 will create a reservoir with a surface area of more than 250 sq. miles. The underground powerhouse planned for Outardes 3 will house four 189,000-kw. units; three are scheduled for initial operation in 1968 and the fourth in 1969. The Outardes 2 plant, adjacent to the existing Outardes Falls station, is scheduled to go into service in 1970 with a total capacity of 447,000 kw. in three units.

Elsewhere in the province, Quebec Hydro is developing two sites on the Quinze Rapids reach of the Upper Ottawa River to supply power to the rapidly developing north-western region. The Rapides des Îles plant is designed for four 37,250-kw. units; one unit was installed in 1966 and two are scheduled for 1967, with development of the fourth dependent upon the magnitude of local power demands. The First Falls plant is designed for 120,000 kw. in four units, one to be installed each year from 1968 to 1970 and the fourth at a later unscheduled date.

The capacity of Quebec's first large thermal station, the Tracy plant near Sorel, will be increased in 1967 by the addition of two 150,000-kw. units, bringing the station capacity to 600,000 kw.

Construction of Quebec's first nuclear generating plant rated at 250,000 kw., began in 1966. The Gentilly nuclear station, being built by Atomic Energy of Canada in co-operation with Quebec Hydro, is located at Pointe aux Roches on the south shore of the St. Lawrence River and is scheduled for completion in 1971.

Ontario.—In 1966, Ontario's electric generating capacity was increased by 818,640 kw.; 783,900 kw. will be brought into operation in 1967 and another 5,760,000 kw. is planned or under construction for service in later years. Most of the new capacity is thermal-electric.

During 1966, the power development program of The Hydro-Electric Power Commission of Ontario involved construction on five hydro-electric stations, six conventional thermal stations and two nuclear-electric plants. The Commission's Kipling hydro station on the Mattagami River began operation in 1966 with a generating capacity of 25,400 kw. At the Mountain Chute hydro site on the Madawaska River, two units,

each rated at 69,750 kw., are scheduled for service in late 1967. Additional generating capacity was being installed at Barrett Chute and Stewartville Stations on the Madawaska River downstream from Mountain Chute; by 1969, two additional 55,800-kw. units at Barrett Chute will bring that station's capacity to 151,400 kw., and two 45,900-kw. units at Stewartville will increase the station's capacity to 153,000 kw. Construction of the Aubrey Falls hydro station on the Mississagi River started in 1966; the station's two 80,000-kw. units are scheduled for completion in 1969.

At Lakeview generating station on the shore of Lake Ontario near Toronto, installation of the fifth 300,000-kw. steam unit was completed in 1966. The ultimate capacity of Lakeview, to be realized in 1968, will be 2,400,000 kw. in eight units. The Lambton station, on the St. Clair River about 14 miles south of Sarnia, will house four 500,000-kw units to come into service at the rate of one a year between 1968 and 1971. Ontario Hydro installed a number of combustion turbine generators in southern Ontario to serve as standby units and contribute to the provision of an adequate margin of reserve capacity at times of peak load, particularly during the present period of rapid load growth. Site investigations for a proposed coal-fired thermal-electric station are being carried out on the north shore of Lake Erie, the schedule for the new station calling for four 500,000-kw units to be installed between 1972 and 1977.

In the nuclear-electric field, installation of the 200,000-kw. CANDU unit at Douglas Point was completed late in 1966 and work continued on the Pickering nuclear-electric station. At Pickering, two 540,000-kw. units are scheduled for initial operation in 1970 and 1971, and at least two other identical units are expected to be installed later.

Manitoba.—Manitoba's electric generating capacity remained unchanged in 1966; however, 26,000 kw. of new generating capacity will be installed in 1967 and another 1,241,000 kw. in later years.

Most of the new capacity will be installed on the Nelson River as a result of an agreement signed by the Governments of Manitoba and Canada. The agreement calls for construction of a hydro plant at Kettle Rapids, diversion of flow from the Churchill River into the Nelson River near Thompson, regulatory facilities at the outlet of Lake Winnipeg and transmission facilities from the Kettle Rapids site to Winnipeg. Capacity of the Kettle Rapids plant will be approximately 1,000,000 kw., of which 400,000 kw. is expected to be in service by 1971. To accommodate the anticipated demand for power before completion of the Kettle Rapids project, the capacity of Manitoba Hydro's Brandon and Selkirk thermal stations will be increased by 105,000 kw. and 26,000 kw., respectively. The Grand Rapids hydro-electric station on the Saskatchewan River will be complete in 1968 when the fourth and final unit of 109,250 kw. is installed.

Saskatchewan.—In Saskatchewan, electric power generating capacity increased by 92,800 kw. in 1966, 77,400 kw. of which was hydro-electric capacity and 15,400 kw. thermal capacity. Although no new capacity is scheduled for 1967, 186,600 kw. of hydro capacity and 330,800 kw. of thermal capacity are planned or under construction for installation in subsequent years.

The bringing into service of two 38,700-kw. units in 1966 completed Saskatchewan Power Corporation's 278,400-kw. Squaw Rapids hydro-electric plant on the Saskatchewan River. Also, a 15,400-kw. gas-fired unit was brought into service at the Corporation's Success thermal plant near Swift Current. Two 150,000-kw. steam turbines will be added at the Boundary Dam thermal plant at Estevan, scheduled for service in 1969 and 1970. At the South Saskatchewan River Project near Outlook, three 62,200-kw. generators will be in service by 1968; the Prairie Farm Rehabilitation Administration is building the dam and reservoir primarily for irrigation purposes and the Saskatchewan Power Corporation is installing the hydro-electric generating facilities.

Alberta.—Alberta's total installed electric generating capacity increased by 303,650 kw. in 1966—172,750 kw. in hydro-electric plants and 130,900 kw. in thermal plants.

It is estimated that 330,500 kw. of new thermal capacity will be installed in 1967 and another 780,000 kw. is scheduled for subsequent years.

A 161,500-kw. hydro-electric unit, at present the largest in Canada, went into service in 1966 at the Big Bend development of Calgary Power Ltd., raising the capacity of the plant to 305,500 kw. At the pumping station associated with the Big Bend plant, a pumping-generating unit with a generator rating of 11,250 kw. was installed in 1966, increasing the total generating capacity to 20,970 kw. in two units. The Company's Wabamun thermal plant is being extended to house a new 300,000-kw. coal-burning unit which, in 1967, will boost the plant capacity to 582,000 kw. A similar unit is under consideration for commissioning in 1970. Canadian Utilities Limited installed a 20,000-kw. gas-turbine unit at Simonette in 1966, and is installing a 150,000-kw. coal-fired unit for service in 1969 at the Battle River thermal plant near Forestburg. The City of Edmonton commissioned a 75,000-kw. gas-fired steam turbo-generator at its Edmonton thermal plant in 1966 and plans to build a new plant consisting of two 165,000-kw. gas-fired units for service in the early 1970s.

British Columbia.—British Columbia's electric generating capacity increased by 114,520 kw. in 1966, and a further 304,100 kw. is scheduled for service in 1967. New installations scheduled for operation after 1967 will yield almost 2,500,000 kw.

In 1966, Cominco Ltd. completed the installation of the fourth and final unit at Waneta hydro-electric station on the Pend d'Oreille River; the new unit, rated at 76,000 kw., increases the station capacity to 292,000 kw. A 34,560-kw. turbo-generator was installed by Columbia Cellulose Company Limited to produce electric power from process steam for the bleached-craft mill at Watson Island near Prince Rupert. Installation of the fourth 162,000-kw. unit at the British Columbia Hydro and Power Authority's Burrard thermal station will be completed in 1967, raising the total generating capacity of the station to 648,000 kw. During 1967, MacMillan, Bloedel and Powell River Limited will install a 40,000-kw. steam turbo-generator at the 14,925-kw. Powell River plant, and the capacity of Alcan's Kemano hydro-electric station will be boosted to 812,800 kw. with the addition of an eighth unit rated at 105,600 kw.

Substantial progress in construction on the British Columbia Hydro and Power Authority's Portage Mountain development on the Peace River was reported in 1966. The development is planned for ten units with a total capacity of 2,270,000 kw., three of which are scheduled for service by the autumn of 1968. Work progressed on the three storage dams being built by the Power Authority under the terms of the Columbia River Treaty which entitles Canada to one half of the power benefits accruing in the United States from the regulation of 15,500,000 acre-feet of water to be stored in Canada behind the Duncan, Arrow and Mica Dams and one half of the value of the estimated flood damage prevented in the United States through the operation of the dams for flood control. The three storage dams are required by the Treaty to be in operation in 1973.

Yukon and Northwest Territories.—In 1966, a net total of 1,340 kw. of new thermal capacity was added at various locations in the Yukon Territory and 750 kw. in the Northwest Territories. Some 7,100 kw. of new thermal capacity will begin operation in 1967 and at least 8,000 kw. (possibly as much as 16,000 kw.) of hydro capacity proposed for installation during 1968-70.

Section 3.—Power Generating Capability and Load Requirements

Power generating *capability*, as covered in this Section, is the measurement of the available generating resources of all hydro and thermal facilities at the time of the one-hour peak load for each reporting company, and is not equal to the *capacity* of such generating facilities. For example, a hydro plant may have a capacity of 100,000 kw. but if, at the time of peak load, the water available for generation is only 80 p.c. of the plant capacity requirements, then its capability is 80,000 kw.

Total generating capability has grown at a rapid rate since 1956. The annual rate of increase was 6.8 p.c. in the ten-year period 1956-66 and 4.9 p.c. in the four-year period 1962-66. In comparison, the forecast rate of growth for the years 1967-71 is 8.6 p.c.; thermal generating capability is expected to grow at an average rate of 15.2 p.c. a year in the forecast period compared with 13.3 p.c. in the period 1956-66, and hydro-electric capability is expected to increase at 5.9 p.c. a year compared with 5.3 p.c. in the 1956-66 period. This rate of growth in hydro generating capability in the forecast period is attributable to the large power projects under construction in relatively remote areas which will be completed within the next few years (see pp. 670-673).

Among the provinces, Quebec has the largest generating capability, followed by Ontario, British Columbia and Alberta. Quebec also has the largest hydro-electric generating capability, followed by Ontario and British Columbia, but Ontario has the largest thermal capability, followed by Alberta and British Columbia. The first nuclear power station went into commercial operation in Ontario in late 1966.

The largest absolute growth in generating capability for the forecast years is indicated for Ontario at 5,322,000 kw., followed by Quebec at 3,668,000 kw., British Columbia at 2,073,000 kw. and Alberta at 1,121,000 kw. Ontario will meet most of its increased generating capability by adding 4,814,000 kw. in thermal capability and 508,000 kw. in hydro capability, the former including 1,200,000 kw. nuclear. Quebec will add 3,327,000 kw. hydro and 341,000 thermal and British Columbia 1,706,000 kw. hydro and 367,000 kw. thermal.

Firm power peak load is the measure of the maximum average net kilowatt demand of one-hour duration from all loads, including commercial, residential, farm and industrial consumers as well as the line losses. Such load demand increased at the rate of 6.6 p.c. a year from 1956 to 1966 and 8.2 p.c. a year from 1962 to 1966; peak load demand is forecast to increase at the average rate of 7.1 p.c. a year in the period 1967-71. As a result of the rapid increase in generating capability and the somewhat slower but steady increase in the peak loads, together with the slight reduction in deliveries of firm power to the United States, the indicated reserve on net generating capability in the 1956-66 period increased each year from 1956 to 1960 and in 1962 and 1965. The forecast is for increases from 1967 to 1971 with the exception of 1968. The reserve ratio as a percentage of firm power peak load reached a high of 28.2 p.c. in 1960 and fell to 11.4 p.c. in 1966 but is expected to increase to 19.1 p.c. in 1971.

3.—Net Generating Capability, by Province, 1966

(Thousand kilowatts)

Province or Territory	Type of Generating Facility				Total
	Hydro-Electric	Thermal-Electric			
		Steam	Internal Combustion	Gas Turbine	
Newfoundland.....	454	52	13	25	544
Prince Edward Island.....	—	51	7	—	58
Nova Scotia.....	141	482	3	—	626
New Brunswick.....	251	421	7	—	679
Quebec.....	10,141	374	15	36	10,566
Ontario.....	5,687	2,947	7	149	8,790
Manitoba.....	1,061	291	11	—	1,363
Saskatchewan.....	392	531	33	40	996
Alberta.....	490	820	26	155	1,491
British Columbia.....	2,779	664	121	177	3,741
Yukon and Northwest Territories.....	63	1	14	1	79
Canada.....	21,459	6,634	257	583	28,933

Item	Actual										Forecast				
	1951	1960	1961	1962	1963 ^r	1964 ^r	1965 ^r	1966	1967	1968	1969	1970	1971		
Net Generating Capability—															
Hydro-electric.....	9,044	18,516	18,389	18,651	19,241	19,403	20,779	21,459	22,539	23,837	26,023	26,882	28,598		
Steam—Conventional.....			3,773	4,596	5,194	5,422	6,354	6,634	8,573	9,068	10,861	11,702	12,806		
Nuclear.....	1,032	3,824	—	—	—	—	—	—	200	200	200	700	1,200		
Internal combustion.....			240	251	236	255	243	257	260	266	267	277	289		
Gas turbine.....			351	371	382	384	460	583	872	851	851	857	857		
Totals, Net Generating Capability.....	10,076	22,340	22,753	23,869	25,053	25,554	27,836	28,833	32,444	34,222	38,202	40,418	43,750		
Receipts of firm power from United States.....	—	—	2	4	2	2	—	100	—	—	—	—	—		
Deliveries of firm power to United States.....	175	166	146	121	122	127	89	87	88	89	91	93	79		
Totals, Net Capability.....	9,901	22,174	23,609	23,752	24,933	25,429	27,747	28,946	32,356	34,133	38,111	40,325	43,671		
Peak Loads—															
Firm power peak loads within Canada.....	8,989	17,264	18,353	18,972	20,755	22,503	24,199	25,973	28,351	30,300	32,146	34,329	36,667		
Indicated shortages.....	321	—	—	—	28	13	—	—	—	—	—	—	—		
Totals, Indicated Peak Loads within Canada	9,310	17,264	18,353	18,972	20,783	22,516	24,199	25,973	28,351	30,300	32,146	34,329	36,667		
Indicated Reserve.....	591	4,910	4,256	4,780	4,150	2,913	3,548	2,973	4,005	3,833	5,965	5,996	7,004		

Section 4.—Electric Power Statistics

Electric power statistics presented in this Section are based on reports of all electrical utilities and all industrial establishments that generate energy regardless of whether or not any is sold and therefore show the total production and distribution of electric energy in Canada. Utilities are defined as companies, commissions, municipalities or individuals whose primary function is to sell most of the electric energy that they have either generated or purchased. Industrial establishments are defined as companies or individuals that generate electricity mainly for use in their own plants.

The current series of electric power statistics dates back to 1956. Earlier reports, entitled *Central Electric Stations*, were concerned solely with the electrical utility industry and hence excluded statistics relating to power produced by industrial establishments for their own use, although power sold by such establishments was included.

5.—Electric Energy Generated, by Type of Station, 1957-66, and by Province 1965 and 1966

Year and Province or Territory	Generated by—		Total	Year and Province or Territory	Generated by—		Total
	Water Power	Thermal Power			Water Power	Thermal Power	
	'000 kwh.	'000 kwh.	'000 kwh.		'000 kwh.	'000 kwh.	'000 kwh.
1957.....	83,373,220	7,668,860	91,042,080	1962.....	104,050,724	13,418,024	117,468,748
1958.....	90,509,200	6,975,089	97,484,289	1963.....	103,831,866	13,406,328	122,238,194
1959.....	97,039,830	7,588,653	104,628,483	1964.....	113,343,948	21,642,799	134,986,747
1960.....	105,882,773	8,495,160	114,377,933	1965.....	117,063,328	27,210,502	144,273,830
1961.....	103,919,241	9,794,077	113,713,318	1966.....	129,834,430	28,300,802	158,135,232
1965				1966			
Nfld.....	2,497,965	270,544	2,768,509	Nfld.....	2,603,718	320,412	2,924,130
P.E.I.....	316	136,596	136,912	P.E.I.....	291	155,626	155,917
N.S.....	452,036	2,179,644	2,631,680	N.S.....	443,186	2,429,172	2,872,358
N.B.....	1,107,943	1,852,193	2,960,136	N.B.....	1,188,427	2,031,916	3,220,343
Que.....	56,049,744	955,091	57,004,835	Que.....	62,200,343	541,282	62,741,625
Ont.....	32,966,086	11,891,923	44,858,009	Ont.....	36,998,857	11,584,150	48,583,007
Man.....	5,258,000	231,140	5,489,140	Man.....	6,036,882	133,396	6,170,278
Sask.....	1,698,322	2,035,375	3,733,697	Sask.....	1,686,280	2,255,994	3,942,274
Alta.....	1,417,864	4,173,463	5,591,327	Alta.....	1,425,028	4,723,660	6,148,688
B.C.....	15,398,746	3,433,241	18,831,987	B.C.....	16,981,084	4,074,615	21,055,699
Y.T. and N.W.T.....	216,306	51,292	267,598	Y.T. and N.W.T.....	270,334	50,579	320,913
Canada, 1965...	117,063,328	27,210,502	144,273,830	Canada, 1966...	129,834,430	28,300,802	158,135,232

Of the total generation in 1966 of 158,135,232,000 kwh., 82.1 p.c. was produced from water power and 17.9 p.c. was generated thermally; the proportions differed markedly among provinces as shown in the following statement.

Province	Hydro	Thermal	Province or Territory	Hydro	Thermal
	p.c.	p.c.		p.c.	p.c.
Newfoundland.....	89.0	11.0	Manitoba.....	97.8	2.2
Prince Edward Island....	0.2	99.8	Saskatchewan.....	42.8	57.2
Nova Scotia.....	15.4	84.6	Alberta.....	23.2	76.8
New Brunswick.....	36.9	63.1	British Columbia.....	80.6	19.4
Quebec.....	99.1	0.9	Yukon and Northwest Territories.....	84.2	15.8
Ontario.....	76.2	23.8			

Table 6 gives summary figures of power production and distribution classified by province, and Tables 7 and 8 give figures classified by type of production establishment. Total installed capacity in Canada amounted to 30,765,024 kw. in 1966, an increase of 1,417,243 kw. over 1965. Of the 1966 total, 25,755,009 kw. were accounted for by utilities and the remainder by industrial establishments. During 1965 and 1966, total sales to ultimate customers amounted to 90,846,706,000 kwh. and 99,773,839,000 kwh., respectively, of which 99.2 p.c. and 99.8 p.c., respectively, was sold by utilities.

Sales to power customers excluding sales to industrial establishments with generating facilities made up 51.5 p.c. of the total in 1965 and 52.1 p.c. in 1966, sales to domestic and farm customers were 32.8 p.c. and 32.2 p.c., respectively, and commercial sales 14.6 p.c. in both years. Exports to the United States in 1966 amounted to 4,397,333,000 kwh. compared with 3,684,121,000 kwh. in 1965.

6.—Summary Electric Power Statistics, by Province, 1965 and 1966

Year and Province or Territory	Installed Generating Capacity	Energy Made Available in Canada	Exported to U.S.A.	Ultimate Customers ¹	Total Revenue from Ultimate Customers ²	Electrical Utilities	
						Employees	Salaries and Wages
	kw.	'000 kwh.	'000 kwh.	No.	\$'000	No.	\$'000
1965							
Newfoundland.....	530,630	2,684,437	—	83,952	17,120	736	3,311
Prince Edward Island..	57,646	136,912	—	26,724	3,897	179	868
Nova Scotia.....	631,376	2,501,566	—	220,596	36,816	1,672	7,840
New Brunswick.....	581,071	2,904,789	236,350	170,132	32,191	1,674	9,735
Quebec.....	10,769,095	52,228,519	46,900	1,639,179	273,117	12,581	77,483
Ontario.....	9,291,822	49,276,395	3,093,736	2,219,482	390,447	16,578	104,490
Manitoba.....	1,406,541	6,150,563	—	304,295	50,629	2,965	16,447
Saskatchewan.....	967,425	3,240,441	—	292,142	52,674	2,317	13,357
Alberta.....	1,397,825	5,603,010	—	419,807	75,304	1,931	11,432
British Columbia.....	3,627,119	19,170,525	307,135 ³	606,954	106,475	2,881	18,919
Yukon and Northwest Territories.....	87,231	267,598	—	6,589	4,599	280	1,700
Canada, 1965.....	29,347,781	144,164,755	3,684,121	5,989,852	1,043,269	43,794	265,582
1966							
Newfoundland.....	588,952	2,843,549	—	92,563	19,358	960	4,359
Prince Edward Island..	57,391	155,917	—	28,484	4,269	197	897
Nova Scotia.....	667,504	2,683,463	—	225,839	39,519	1,754	8,666
New Brunswick.....	694,596	3,168,491	311,195	174,438	34,764	1,400	7,619
Quebec.....	11,188,766	56,592,430	25,872	1,691,068	296,301	12,172	90,146
Ontario.....	9,784,513	53,825,017	3,246,707 ⁴	2,266,320	421,064	16,831	112,542
Manitoba.....	1,412,771	6,475,488	—	310,730	54,227	2,750	16,338
Saskatchewan.....	1,006,607	3,634,383	—	300,039	57,184	1,608	10,216
Alberta.....	1,500,035	6,155,082	—	428,151	80,314	1,933	12,710
British Columbia.....	3,776,125	21,101,201	813,559 ⁵	634,329	118,349	2,979	21,117
Yukon and Northwest Territories.....	87,764	320,913	—	7,329	5,272	302	1,989
Canada, 1966.....	30,765,024	156,955,934	4,397,333	6,159,290	1,130,621	42,886	286,599

¹ Excludes industrial establishments that purchase power and have generating facilities, of which there were 1 and 157 in 1965 and 1966, respectively.

² Excludes revenue from sales to industrial establishments that purchase power and have generating facilities; totalling \$71,867,000 and \$78,847,000 in 1965 and 1966, respectively.

³ Includes 297,432,000 kwh. "no value" energy.

⁴ Includes 2,112,603,000 kwh. "no value" energy.

⁵ Includes 810,633,000 kwh. "no value" energy.

7.—Summary Electric Power Statistics, by Type of Establishment, 1965 and 1966

Year and Item	Electrical Utilities			Industrial Establishments	Total
	Publicly Operated	Privately Operated	Total		
1965					
Installed generator capacity..... kw.	21,152,734	3,004,678	24,157,412	5,190,369	29,347,781
Energy generated.....'000 kwh.	97,480,094	13,317,525	110,797,619	33,476,211	144,273,830
Hydro..... "	78,515,046	9,133,370	87,648,416	29,414,912	117,063,328
Thermal..... "	18,965,048	4,184,155	23,149,203	4,061,299	27,210,502
Energy Made Available in Canada.'000 kwh.	..	..	..	..	144,164,755
Disposal of energy in Canada ¹.....'000 kwh.	92,386,395	10,122,534	102,508,929	41,655,826	144,164,755
Energy exported to United States... "	2,825,228	680,108	3,505,336	178,785	3,684,121
Ultimate customers in Canada..... No.	5,450,832	529,818	5,980,650	9,202	5,989,852
Domestic and farm..... "	4,823,554	450,479	5,274,033	8,438	5,282,471
Commercial..... "	543,357	64,576	607,933	714	608,647
Power..... "	77,703	13,881	91,584	37	91,621
Street lighting..... "	6,218	882	7,100	13	7,113
Revenue from ultimate customers ² .. \$'000	922,146	116,528	1,038,674	4,595	1,043,269
Revenue from exports to United States "	3,003	3,225	6,228	1,355	7,583
Employees..... No.	39,693	4,101	43,794	..	..
Salaries and wages..... \$'000	243,060	22,522	265,582	..	..
1966					
Installed generator capacity..... kw.	22,461,210	3,293,799	25,755,009	5,010,015	30,765,024
Energy generated.....'000 kwh.	109,184,839	16,813,509	125,998,348	32,136,884	158,135,232
Hydro..... "	89,525,777	12,342,630	101,868,407	27,966,023	129,834,430
Thermal..... "	19,659,062	4,470,879	24,129,941	4,170,861	28,300,802
Energy Made Available in Canada..'000 kwh.	..	..	..	..	156,955,934
Disposal of energy in Canada ¹.....'000 kwh.	101,988,412	11,222,693	113,211,105	43,744,829	156,955,934
Energy exported to United States..... "	3,096,943	923,629	4,020,572	376,761	4,397,333
Ultimate customers in Canada..... No.	5,607,996	538,911	6,146,907	12,383	6,159,290
Domestic and farm..... "	4,967,248	457,220	5,424,468	11,627	5,436,095
Commercial..... "	550,417	66,333	617,250	710	617,960
Power..... "	83,044	13,944	96,988	32	97,020
Street lighting..... "	7,237	914	8,201	14	8,215
Revenue from ultimate customers ² .. \$'000	1,004,289	124,039	1,128,328	2,293	1,130,621
Revenue from exports to United States "	1,899	4,185	6,084	1,575	7,659
Employees..... No.	38,365	4,521	42,886	..	..
Salaries and wages..... \$'000	260,834	25,765	286,599	..	..

¹ Excludes sales by electrical utilities to industrial establishments with generating facilities, sales by industrial establishments with generating facilities to electrical utilities, and inter-industrial sales. ² Excludes revenue from sales by electrical utilities to industrial establishments with generating facilities, and inter-industrial sales.

8.—Electric Power Generated classified by Type of Establishment, by Province, 1965 and 1966

Year and Province or Territory	Electrical Utilities		Industrial Establish- ments	Total
	Publicly Operated	Privately Operated		
	'000 kwh.	'000 kwh.	'000 kwh.	'000 kwh.
1965				
Newfoundland.....	18,466	2,246,633	503,410	2,768,509
Prince Edward Island.....	5,186	131,726	—	136,912
Nova Scotia.....	718,075	1,630,747	282,858	2,631,680
New Brunswick.....	2,217,138	79,646	663,352	2,960,136
Quebec.....	34,946,200	2,828,579	19,230,056	57,004,835
Ontario.....	40,569,318	1,591,822	2,696,869	44,858,009
Manitoba.....	5,416,869	—	72,271	5,489,140
Saskatchewan.....	2,934,371	613,380	185,946	3,733,697
Alberta.....	1,438,719	3,749,888	402,720	5,591,327
British Columbia.....	9,026,493	423,797	9,381,697	18,831,987
Yukon and Northwest Territories.....	189,259	21,307	57,032	267,598
Canada, 1965.....	97,480,094	13,317,525	33,476,211	144,273,830
1966				
Newfoundland.....	26,927	2,340,234	556,969	2,924,130
Prince Edward Island.....	5,599	150,318	—	155,917
Nova Scotia.....	1,103,303	1,516,508	252,547	2,872,358
New Brunswick.....	2,460,789	122,547	637,007	3,220,343
Quebec.....	39,579,347	6,080,712	17,081,566	62,741,625
Ontario.....	44,324,018	1,533,208	2,725,781	48,583,007
Manitoba.....	6,102,059	—	68,219	6,170,278
Saskatchewan.....	3,113,758	638,115	190,401	3,942,274
Alberta.....	1,635,976	4,103,256	409,456	6,148,688
British Columbia.....	10,593,307	307,089	10,155,303	21,055,699
Yukon and Northwest Territories.....	239,756	21,522	59,635	320,913
Canada, 1966.....	109,184,839	16,813,509	32,136,884	158,135,232

Average domestic and farm consumption rose from 5,630 kwh. in 1965 to 5,911 kwh. in 1966. Among the provinces, the averages in 1966 varied from a low of 2,559 kwh. in Prince Edward Island to a high of 7,637 kwh. in Manitoba. For domestic and farm customers the average annual bill was \$83.43 in 1966 as against \$80.44 in 1965, an increase of 3.7 p.c.

Although many utilities do not keep records on farm customers separate from other domestic customers, the data reported on farm service indicate that the average consumption rose from 7,045 kwh. per customer in 1965 to 7,720 kwh. in 1966 and the average bill from \$125.80 to \$134.22.

9.—Domestic and Farm Service by Electric Utilities and Industrial Establishments, 1962-66

Item	1962	1963	1964	1965	1966
Customers..... No.	4,864,464	4,980,351	5,139,545 ^r	5,282,471	5,436,095
Kilowatt-hours sold..... '000	23,704,259	25,321,606	27,277,574	29,737,741	32,131,003
Revenue received..... \$'000	365,990	383,983	401,194	424,924	453,534
Kilowatt-hours per customer..... No.	4,873	5,084	5,307 ^r	5,630	5,911
Average annual bill..... \$	75.24	77.10	78.06 ^r	80.44	83.43
Revenue per kwh..... cts.	1.54	1.52	1.47	1.43	1.41

In 1966, natural gas accounted for 21.7 p.c. of thermal generation by utilities, coal for 65.7 p.c., petroleum fuels for 11.9 p.c. and nuclear fuel for 0.7 p.c.; corresponding proportions in 1965 were 20.6 p.c., 67.8 p.c., 11.1 p.c. and 0.5 p.c., respectively.

10.—Fuel Used by Electrical Utilities to Generate Power, by Province, 1965 and 1966

Year and Province or Territory	Coal		Petroleum Fuels		Gas	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	Imp. gal.	\$	Mcf.	\$
1965						
Newfoundland.....	—	—	14,601,458	1,294,816	—	—
Prince Edward Island.....	—	—	11,808,825	774,108	—	—
Nova Scotia.....	697,721	6,333,938	44,063,854	2,893,292	—	—
New Brunswick.....	368,092	3,162,023	48,486,217	3,183,681	—	—
Quebec.....	—	—	34,121,257	2,898,218	—	—
Ontario.....	3,932,259	35,347,158	5,749,254	1,005,800	223,537	90,250
Manitoba.....	192,907	788,893	2,808,103	455,736	402,338	109,359
Saskatchewan.....	1,195,893	2,292,242	9,789,764	579,352	10,707,602	1,271,936
Alberta.....	1,334,842	1,723,449	4,099,032	378,814	27,579,163	4,489,604
British Columbia.....	—	—	12,113,577	1,865,260	20,688,684	5,725,391
Yukon and Northwest Territories...	—	—	2,895,041	865,170	—	—
Canada, 1965.....	7,721,714	49,647,703	190,536,082	16,194,247	59,601,324	11,686,540
1966						
Newfoundland.....	—	—	19,663,021	1,669,354	—	—
Prince Edward Island.....	—	—	13,059,423	860,417	—	—
Nova Scotia.....	880,714	7,808,885	30,303,677	2,012,912	—	—
New Brunswick.....	323,799	2,731,044	59,982,064	3,800,229	—	—
Quebec.....	—	—	13,028,501	1,295,478	—	—
Ontario.....	3,858,489	34,382,963	6,640,949	1,068,130	332,962	150,921
Manitoba.....	86,727	374,983	5,525,748	842,244	174,615	50,582
Saskatchewan.....	1,230,002	2,421,456	11,964,751	711,245	12,829,268	2,392,552
Alberta.....	1,499,049	1,806,289	6,715,602	549,205	30,060,165	4,951,671
British Columbia.....	—	—	40,409,447	4,160,716	20,877,717	5,641,502
Yukon and Northwest Territories...	—	—	2,091,874	523,072	—	—
Canada, 1966.....	7,878,780	49,525,620	209,384,957	17,493,002	64,274,727	13,187,238

Section 5.—Public Ownership and Regulation of Electrical Utilities

Federal Government regulation of electrical utilities, particularly with respect to the export of electric power and the construction of lines over which such power is exported, falls within the jurisdiction of the National Energy Board established in November 1959 and concerned with all matters relating to energy resources within the jurisdiction of the Parliament of Canada (see Domestic Trade Chapter XXI, Part II, Section 4 for an outline of the functions and operations of the National Energy Board).

Power is generated in Canada by publicly and privately operated utilities and by industrial establishments. Table 8, p. 679, giving statistics by type of establishment, shows that 68 p.c. of the total electric power generated in 1965 was produced by publicly operated utilities, 9 p.c. by privately operated utilities and 23 p.c. by industrial establishments. However, ownership differs greatly in different areas of the country. Quebec output at one time was predominantly from privately owned plants and in Ontario almost all electric power is produced by a publicly owned utility. Figures for 1962 and subsequent years will show a much greater proportion of publicly operated electrical utilities since they will reflect the recent provincial take-over of privately owned facilities in both British Columbia and Quebec.

Because of the absence of free market determination of prices and regulation of services in an industry that is semi-monopolistic, regulation of electrical utilities has been attempted in most provinces. Neither Newfoundland nor Prince Edward Island has a provincially operated electric power system, although in the former province a Commission, known as the Newfoundland and Labrador Power Commission, was established by the provincial government in 1954 for the purpose of supplying electric power wherever needed throughout the province, particularly to rural areas. In Prince Edward Island, the town of Summerside and surrounding area is served by the municipally operated Town of Summerside Electric Light Department. The functions and activities of provincially operated electric power commissions in the other provinces are summarized in the following paragraphs.

Nova Scotia.—With total fixed assets of \$123,770,097, including \$22,705,033 worth of work in progress, the self-supporting Nova Scotia Power Commission is one of the largest businesses in the province, employing nearly 1,000 people. The Commission was created under the Power Commission Act of 1919 to exploit the limited but useful hydro potential of the province, as investigated by the Water Power Commission of 1915. The first objective was to develop remote sites to supply power and energy at lowest possible cost to new industry, particularly pulp and paper operations, and a few centres of population. The 1937 Rural Electrification Act, however, provided equalization grants and made it possible to carry out the formidable task of bringing power and energy to low-density farm and rural village areas. In the past 30 years the picture has changed markedly, with a progressive industrial climate providing both a stable base and strong opportunities for growth. The Commission's power development program, as at Dec. 31, 1966, is outlined on p. 670.

Today, more than 5,680 miles of transmission and distribution lines conduct the energy generated by about 300,000 kw. capability in 26 stations to and from every corner of Nova Scotia. Hydro power now constitutes only a fraction of base load, although it is out to optimum use for peaking purposes. Economical thermal power has risen greatly in importance during the past 10 years and holds most of the answers for the future—with the possible exception of Bay of Fundy tidal power.

1.—Capacity and Output of the Nova Scotia Power Commission, Year Ended Nov. 30, 1966

System ¹ and First Year of Operation	Present Installed Capacity	Output	System ¹ and First Year of Operation	Present Installed Capacity	Output
	kw.	kwh.		kw.	kwh.
Western Network—			St. Margaret (1921).....	10,400	22,388,000
Harmony (1943).....	600	2,767,000	Mersey—		
Roseway (1930).....	888	3,512,650	Original development		
Gulch (1952).....	6,000	15,597,751	(1928).....	21,780	64,717,000
Ridge (1957).....	4,000	6,344,730	Cowie Falls (1938).....	7,200	21,794,700
Portable (diesel).....	200	450	Deep Brook (1950).....	9,000	24,030,300
Sissiboo (1960).....	6,000	17,491,780	Lower Great Brook (1955).....	4,500	11,015,060
Weymouth (1961).....	9,000	26,664,400			
Eastern Network—			Canseau (diesel) (1937).....	700	8,740
Barrie Brook (1940).....	360	723,820	Tusket (1929).....	2,160	10,837,376
Diekie Brook (1948).....	3,800	6,361,320			
Malay Falls (1924).....	3,600	7,683,340	Cumberland—		
Ruth Falls (1925).....	6,970	23,910,160	Maccan (thermal) (1927).....	26,850	83,606,400
Liscomb (1957).....	450	2,595,416	Seaboard (thermal) (1930).....	108,000	421,116,903
Trenton (thermal) (1951).....	60,000	283,899,200			
			Totals.....	292,458	1,057,066,496

¹ Hydro unless otherwise noted.

New Brunswick.—The New Brunswick Electric Power Commission was incorporated under the Electric Act, 1920. Generating stations owned by the Commission at Mar. 31, 1967 were as follows:—

<i>Plant</i>	<i>Type</i>	<i>Capacity</i>	<i>Plant</i>	<i>Type</i>	<i>Capacity</i>
		kw.			kw.
Grand Falls.....	Hydro	63,000	Grand Lake.....	Steam	101,250
Musquash.....	Hydro	6,960	Saint John (Dock St.)..	Steam	16,000
Tobique.....	Hydro	20,000	Chatham.....	Steam	32,500
Beechwood.....	Hydro	112,500	Grand Manan.....	Diesel	2,350
Milltown.....	Hydro	3,036			
Sisson.....	Hydro	10,000			
Courtenay Bay.....	Steam	173,365			
			TOTAL CAPACITY.....		540,961

All the above generating units with the exception of Grand Manan are interconnected in a province-wide grid system. The statistical information given in Table 12 shows the growth of the Commission's undertakings since 1963. Power plant construction under way in New Brunswick during 1966 is outlined at p. 670.

12.—Growth of the New Brunswick Electric Power Commission, Years Ended Mar. 31, 1963-67

Item	1963	1964	1965	1966	1967
High-voltage transmission line.. miles	1,845	1,947	2,093	2,255	2,315
Distribution line..... "	8,390	8,447	8,528	8,586	8,664
Direct customers..... No.	117,073	118,443	121,036	124,030	124,753
Plant capacities..... kw.	348,736	406,636	419,761	430,261	540,961
Power generated (incl. purchases) kwh.	1,644,740,890	1,797,928,340	2,207,165,360	2,571,484,730	3,013,532,860
Capital invested..... \$	170,859,403	184,956,439	205,192,238	247,896,370	291,563,329
Revenue..... \$	22,591,554	24,650,853	29,244,088	33,108,342	37,601,262

Quebec.—*Stream and Reservoir Control.*—The Quebec Streams Commission was created in 1910 (SQ 1910, c. 5) and given additional powers in 1912 (RSQ 1925, c. 46) and 1930 (SQ 1930, c. 34); it was authorized to ascertain the water resources of the province, to make recommendations regarding their control and to construct and operate certain storage dams to regulate the flow of streams. On Apr. 1, 1955, the Commission was abolished and its powers and attributions transferred to the Hydraulic Resources Department, now the Department of Natural Resources. The rivers controlled by the Commission at the time of transfer, either by means of dams on the rivers or by regulating the outflow of lakes at the headwaters, were: the St. Maurice, the Gatineau, the Lièvre, the St. Francis, the Chicoutimi, the Au Sable and the Métis. The Commission also operated nine reservoirs on the North River, two in the watershed of the Ste. Anne de Beupré River and one at the outlet of Lake Morin on Rivière du Loup (lower). In 1965, eleven auxiliary reservoirs on the St. Maurice System and two on the Gatineau were turned over by the Department of Natural Resources to the Quebec Hydro-Electric Commission for operation and maintenance.

Storage reservoirs otherwise controlled or operated are: the Lake St. John, the Lake Manouane and Passe Dangereuse on the Peribonca River controlled by the Aluminum Company of Canada; the Onatchiway on the Shipshaw River controlled by Price Brothers and Company Limited; Memphremagog Lake on the Magog River controlled by the Dominion Textile Company; and Témiscamingue and Quinze Lakes on the Ottawa River controlled by the federal Department of Public Works. Storage reservoirs under the

control of the Quebec Hydro-Electric Commission are: Témiscouata Lake on the Mada-
waska River, Kipawa Lake on the Ottawa River, Lac Dozois on the upper Ottawa River,
Lac Cassé in the Bersimis River watershed and Lac Ste. Anne on the Touloustouc River,
tributary of the Manicouagan River.

The Quebec Hydro-Electric Commission.—The Quebec Hydro-Electric Commission was
established in 1944 (SQ 1944, c. 22) for the purpose of supplying power to the municipalities,
to industrial and commercial undertakings and to citizens of the Province of Quebec at the
lowest rates consistent with sound financial administration. On May 1, 1963, the Com-
mission acquired control of the following privately owned electrical utilities operating in
the Province of Quebec: the Shawinigan Water and Power Company, the St. Maurice
Power Corporation, the Quebec Power Company, the Southern Canada Power Company,
the Gatineau Power Company, the Northern Quebec Power Company, the Saguenay
Electric Company, and the Lower St. Lawrence Power Company. As a result of these
transactions, all electricity production, except for facilities operated by certain industrial
organizations in their own manufacturing operations, was brought under the control of a
single authority. The services of the Commission now cover virtually the entire province
except for local distribution of small amounts of electricity by some municipalities, most
of which is purchased from the Commission or its subsidiaries.

At the end of 1966 Hydro-Quebec and its subsidiaries had in operation 57 hydro-
electric stations (nine of which were under construction) having a capacity of 7,417,501 kw.,
and 14 thermal-electric stations (one of which was being enlarged) having a capacity of
15,743 kw.—a total capacity in operation of 7,763,244 kw. These facilities permit the
balanced distribution of power throughout Quebec and the most efficient use of the water
power resources of the province. Power plant construction under way in Quebec during
1966-67 is outlined at p. 671.

13.—Summary Statistics of the Operations of the Quebec Hydro-Electric Commission, 1965 and 1966

Item	1965	1966
Installed capacity.....kw.	7,349,714	7,763,244
Hydro.....kw.	7,005,931	7,417,501
Thermal.....kw.	343,783	345,743
Consolidated system peak load.....kw.	6,856,000	7,388,000
Available energy.....'000,000 kw.	39,783	44,013
Total electricity sales.....\$	288,156,148	313,530,432
Customers, at Dec. 31.....No.	1,539,073	1,581,241
Revenue.....\$	296,561,000	321,496,000
Operating expenditures, incl. power purchases.....\$	180,410,000	200,526,000
Capital expenditures.....\$	314,817,488	317,062,293
Properties and plant at cost.....\$	2,959,242,963	3,526,597,369
Employees, at Dec. 31, excl. construction personnel.... No.	10,976	11,466
Salaries and wages paid, excl. construction.....\$	65,000,000	86,278,000

Ontario.—The Hydro-Electric Power Commission of Ontario is a corporate entity,
self-sustaining public enterprise endowed with broad powers with respect to the supply
of electricity throughout the Province of Ontario. Its authority is derived from an Act
of the Provincial Legislature passed in 1906 to give effect to recommendations of earlier

advisory commissions that the water powers of Ontario should be conserved and developed for the benefit of the people of the province. It now operates under the Power Commission Act (SO 1907, c. 19) passed in 1907 as an amplification of the Act of 1906 and subsequently modified from time to time (RSO 1960, c. 300, as amended). The Commission may have from three to six members, all of whom are appointed by the Lieutenant-Governor in Council. Two commissioners may be members of the Executive Council of the Province of Ontario.

The basic principle governing the financial operations of the Commission and its associated municipal utilities is that electrical service is provided at cost. The Commission interprets cost as including payments for power purchased, charges for operating and maintaining the power supply facilities, and related fixed charges. The fixed charges represent interest on debt, provisions for depreciation, allocations to reserves for contingencies and rate stabilization, and the further provision of a sinking fund reserve for retiring the Commission's capital debt. While the enterprise from its inception has been self-sustaining, the province guarantees the payment of principal and interest on all bonds issued by the Commission and held by the public. In addition, the province has materially assisted the development of agriculture by contributing under the Hydro-Electric Distribution Act toward the capital cost of extending rural distribution facilities.

The entire provincial area served is regarded for financial and administrative purposes as a unit, but there is no electrical connection between the Commission's facilities in north-western Ontario and those serving customers in the remainder of the province. Statistics are therefore presented for two operating systems, the East System and the West System; the systems respectively serve the areas east and west of a line extending north from Lake Superior to the Albany River, a line that roughly conforms with the boundary dividing Thunder Bay District from the Districts of Algoma and Cochrane.

In addition to administering the enterprise over which it has direct control, the Commission, under the Power Commission Act and the Public Utilities Act, exercises certain regulatory functions, particularly with respect to the group of municipal electrical utilities which it serves. In order to provide convenient and expeditious service in this dual function of regulation and supply, the Commission subdivides its province-wide operations into seven regions with regional offices located in seven major municipalities.

The Commission is concerned primarily with the provision of electric power by generation or purchase and its delivery to the electrical utilities for resale in municipalities having cost contracts with the Commission. The Commission supplies power in bulk, though not under cost contract, to direct customers, including industrial customers whose requirements are so large or so unusual as to make service by the local municipal utilities impracticable, mines, industries in unorganized territories, and certain interconnected systems.

In addition to these operations, which represent about 90 p.c. of its energy sales, the Commission delivers electric power to retail customers in rural areas and in a small group of about 30 municipalities served by Commission-owned local distribution facilities. Retail service throughout the province is provided for the most part, however, by the municipal electrical utilities, who supply ultimate customers in most cities and towns, in many villages, and in certain populous township areas. The municipal electrical utilities are owned and operated by local commissions.

During 1966, the Commission's investment in fixed assets at cost increased by \$194,245,123 and at the end of the year amounted to \$3,125,460,173. Assets, after deducting accumulated depreciation, were \$3,189,601,030. In that year, 358 associate municipal electrical utilities engaged in the retail distribution of electricity purchase power from the Commission. The assets of these utilities, after deducting accumulated depreciation, amounted to \$994,362,633, of which \$406,329,792 represented the equity acquired in the Commission's systems by the municipal utilities operating under cost contracts.

The Commission's power development program as at Dec. 31, 1966 is given in Table 14 and is also outlined at pp. 671-672.

14.—Current Power Development Program of The Hydro-Electric Power Commission of Ontario, as at Dec. 31, 1966

Development	Units	In Service	Installed Capacity
	No.		kw.
Lakeview—near Toronto.....	8	1961-68	2,400,000
Douglas Point Nuclear Power—near Kincardine.....	1	1967	200,000
Mountain Chute—Madawaska River.....	2	1967	139,500
Lambton—14 miles south of Sarnia.....	4	1968-70	2,000,000
Pickering—20 miles east of Toronto—			
Nuclear.....	2	1970-71	1,080,000
Diesel.....	3	1970-71	15,000
Barrett Chute (extension)—Madawaska River.....	2	1968	111,600
Aubrey Falls—Mississagi River.....	2	1969	130,000 ¹
Stewartville (extension)—Madawaska River.....	2	1969	91,800
Nanticoke—near Port Dover.....	2	1971-72	2,000,000
	2	Not established	
Combustion turbine units—various sites.....	19	1967	184,780

¹ Tentative capacity.

15.—Resources of The Hydro-Electric Power Commission of Ontario Generated and Purchased (All Systems), December 1964-66

Year and System	Hydro-Electric Stations ¹	Thermal-Electric Stations ¹	Power Purchased
	kw.	kw.	kw.
December 1964—			
East System.....	4,445,250	2,027,000	617,000
West System.....	593,500	93,000	—
Totals.....	5,038,750	2,120,000	617,000
December 1965—			
East System.....	4,391,350	2,600,000	521,300
West System.....	593,500	93,000	—
Totals.....	4,984,850	2,693,000	521,300
December 1966—			
East System.....	4,526,350	2,737,000	521,500
West System.....	585,800	93,000	—
Totals.....	5,112,150	2,830,000	521,500

¹ Dependable peak capacity—the amount of power which resources can be expected to supply at the time of the system primary peak requirements, assuming that all units are available and that the supply of water is normal. This capacity will vary from time to time in accordance with changing conditions. The capacity of a source of purchased power is based on the terms of the purchase contract.

16.—Distribution of Power to Systems of The Hydro-Electric Power Commission of Ontario, Years Ended Dec. 31, 1962-66

NOTE.—Peak load generated and purchased, primary and secondary, in terms of generation.

System	1962	1963	1964	1965	1966
	kw.	kw.	kw.	kw.	kw.
East System.....	6,362,585	6,684,726	7,107,690	7,765,107	8,259,355
West System.....	606,300	615,570	581,100	583,300	580,100
Totals.....	6,968,885	7,300,296	7,688,790	8,348,407	8,839,455

17.—Growth of The Hydro-Electric Power Commission of Ontario, 1957-66

Year	Ultimate Customers Served Directly or Indirectly	Total Power Distributed ¹	Assets of Commission and Municipal Utilities
	No.	kw.	\$
1957.....	1,674,062	4,970,576	2,563,058,384
1958.....	1,757,405	5,417,536	2,756,758,142
1959.....	1,830,453	6,018,204	2,909,088,086
1960.....	1,881,472	6,157,534	3,044,800,811
1961.....	1,938,897	6,463,932	3,196,429,522
1962.....	1,991,289	6,968,885	3,148,330,722
1963.....	2,041,732	7,300,296	3,225,289,707
1964.....	2,095,754	7,688,790	3,331,568,631
1965.....	2,142,281	8,348,407	3,533,238,101
1966.....	2,187,767	8,839,455	3,777,633,871

¹ Sum of the maximum 20-minute coincident peak loads (primary plus secondary) of each of the systems operated by the Commission, given in terms of net output of the sources of supply to each system for the last month of each fiscal year.

Manitoba.—Manitoba Hydro is the primary developing, generating and distributing agency in the Province of Manitoba. The corporation came into being Apr. 1 1961, following amalgamation of the two former provincial government utilities engaged in the generation and distribution of electric power.

Manitoba Hydro operates six hydro-electric generating stations, two thermal-electric generating stations and 15 diesel-electric generating plants. The combined generating capability is 1,163,820 kw., hydro installations accounting for 910,000 kw., thermal installations for 244,000 kw. and diesel installations for 9,820 kw. Four hydro stations are located on the Winnipeg River near Winnipeg, one is on the Saskatchewan River 28 miles north of Winnipeg, and one is on the Nelson River, 450 miles northeast of Winnipeg. All six hydro stations and the thermal generating stations at Selkirk and Brandon are electrically interconnected to a common network known as the Manitoba Integrated System. Diesel installations are used to provide power to isolated northern communities where extension of hydro-electric transmission facilities are not feasible.

Manitoba Hydro serves 572 communities and 222,710 consumers in rural Manitoba and suburban Winnipeg through a network of 35,644 miles of transmission and distribution lines. In addition, Manitoba Hydro supplies part of The Winnipeg Hydro Electric System power requirements within the corporate limits of Winnipeg. Power plant construction in Manitoba in 1966 is outlined at p. 672.

Saskatchewan.—The Saskatchewan Power Corporation was established on Feb. 1 1949, and operates under the provisions of the Power Corporation Act (SS 1950, c. 10, amended). It succeeded the Saskatchewan Power Commission which had operated from Feb. 11, 1929. The original functions of the Corporation included the generation, transmission, distribution, sale and supply of hydro and steam electric energy. Since 1952, the Corporation has been authorized to produce or purchase and to transmit, distribute, sell and supply natural or manufactured gas.

During 1966, the Corporation served approximately 1,000 urban-size communities, retail sales, and served the cities of Saskatoon and Swift Current, the town of Battleford and the hamlet of Waskesiu in bulk sales. As at Dec. 31, the Corporation served 258,141 retail customers and 44,439 customers located in communities supplied with power through bulk sales, a total of 303,016. The retail customers included 188,986 urban customers and 69,591 classified as rural, mainly farm meters. During 1966, 3,391,829,

kwh. were supplied to its system, of which 3,096,039 kwh. were generated in Corporation plants and 295,790,000 kwh. were purchased in bulk. At the end of the year, the Corporation had invested, at cost, \$417,615,000 in electric system assets out of a total of \$582,829,000 in plant-in-service in the combined electric and natural gas systems.

Squaw Rapids, which reached its maximum capacity during the year, produced 29.9 p.c. of the gross generation in 1966. At year-end, the Corporation also owned and operated six steam generating plants—two each at Saskatoon and Estevan, and one each at Regina and Moose Jaw, the latter operated only during the peak months. Steam supplied 64.2 p.c. of total system requirements and three internal combustion gas dual fuel plants—the Kindersley, the Swift Current, and the Regina B—supplied most of the remainder. System capability in operation was assessed at 880,150 kw. with 537,000 kw. in steam plants, 281,000 in hydro and 62,150 kw. in gas turbine and internal combustion units. The Corporation owned and operated 74,381 miles of transmission and rural lines (excluding urban distribution).

Power plant construction in Saskatchewan in 1966 is outlined at p. 672.

18.—Growth of the Saskatchewan Power Corporation, 1957-66

Year	Communities Served in Bulk and Retail Sales	Individual Meters in Communities Served	Power Distributed	Revenue
	No.	No.	kwh.	\$
1957.....	870	178,567	780,613,534	18,152,460
1958.....	880	188,293	909,086,629	20,687,771
1959.....	962	197,451	1,067,349,615	23,909,113
1960.....	984	221,675	1,238,531,753	26,667,471
1961.....	901	229,336	1,498,055,955	30,263,598
1962.....	961 ¹	235,386	1,645,862,278	33,106,018
1963.....	969	240,812	1,926,862,734	36,892,949
1964.....	976	246,389	2,208,149,680	39,777,472
1965.....	984	294,135	2,871,800,000	46,145,000
1966.....	1,006	303,016	3,391,829,000	52,866,000

¹ November 1962 figure.

British Columbia.—The British Columbia Hydro and Power Authority is a corporation and an agency of the Crown in right of the Province of British Columbia. The electric service of the Authority includes the generation and transmission of electricity and its distribution throughout the areas of British Columbia; the Authority also operates gas, passenger transportation and rail freight services.

Of the Authority's total electric power requirements of 11,158,219,692 kwh. for the year ended Mar. 31, 1967, 7,763,524,635 kwh. or 69.6 p.c. were produced by hydro-electric stations and 2,931,398,378 kwh. or 26.3 p.c. by thermal plants; the remainder, amounting to 463,296,679 kwh., was purchased. Kilowatt-hours of electricity sold during the year (10,000,478,404) were 17.6 p.c. higher than the previous year, compared with an average annual rate of increase of 12.0 p.c. during the past decade. Impressive rates of increase in kilowatt-hours consumed were recorded for all categories of customers during 1966-67. Residential consumption moved up 12.4 p.c., general consumption 13.4 p.c., industrial 13.8 p.c., and bulk power 25.8 p.c.

At Mar. 31, 1967, the number of customers served with electricity by the Authority totalled 555,029, an increase of 25,788 during the year. The average annual rate for residential customers dropped from 1.52 cents to 1.48 cents a kilowatt-hour, and the average annual residential consumption rose from 5,650 kwh. to 6,016 kwh.

**19.—Summary Statistics of the British Columbia Hydro and Power Authority,
Year Ended Mar. 31, 1967**

Item	Amount	Item	Amount
Generating capacity..... kw.	2,072,328	Proportionate Sales—	
Hydro..... "	1,320,322	Residential..... p.c.	28
Thermal and diesel..... "	752,006	Other systems (mainly residential) "	2
		Commercial, industrial, etc..... "	70
Power requirements..... '000 kwh.	11,158,220	Pole Miles of Line—	
Generated..... "	10,694,923	Transmission (high voltage)..... No.	4,491
Purchased..... "	463,297	Distribution primaries..... "	13,784
Customers at year-end..... No.	555,029	Revenue (electric)..... \$'000	118,427
Electricity sold..... '000 kwh.	10,000,478	Capital investment (plant in operation)..... \$'000	1,068,272

Northwest Territories and Yukon Territory.—The Northern Canada Power Commission, formerly the Northwest Territories Power Commission, was created by Act of Parliament in 1948 to supply electric power to points in the Northwest Territories where a need developed and where power could be provided on a self-sustaining basis. By legislation passed in 1950, the Act was extended to include the Yukon Territory. The Commission has authority to construct and operate public utility plants as required in the Territories and, subject to approval of the Governor in Council, in any other parts of Canada.

The Commission has hydro-electric power developments on the Yukon River near Whitehorse, Y.T., the Mayo River near Mayo, Y.T., the Snare River northwest of Yellowknife, N.W.T., and the Taltson River northeast of Fort Smith, N.W.T. Diesel-electric plants are operated at Fort Simpson, Fort Resolution, Fort McPherson, Aklavik and Cambridge Bay, N.W.T., Dawson, Y.T., and Field, B.C., and utility plants comprising power, central heat and water and sewerage services at Inuvik and Frobisher Bay, N.W.T., and at Moose Factory, Ont.

The Whitehorse Rapids power development, in service since 1958, supplies the Department of National Defence and the Department of Public Works at Whitehorse, most of the power for the city of Whitehorse, and a copper mining operation located within a few miles of Whitehorse. The two Snare River hydro developments, placed in service in 1948 and 1960, supply power to the gold mines in the Yellowknife area and to the town of Yellowknife; these two hydro plants are operated by remote control from Yellowknife. The Mayo River plant has supplied power to mining properties in the Elsie and Keno areas and to the communities of Mayo and Keno City since 1952. The Taltson River Hydro project commissioned in late 1965 and which is to date the largest Canadian power development north of the 60th parallel, supplies the lead-zinc mining operation at Pine Point, and the communities of Fort Smith and Pine Point; the plant is operated by remote control from Fort Smith.

In 1966 the Commission assumed responsibility for the operation of the Cambridge Bay diesel plant, N.W.T., and the Dawson diesel plant, Y.T. Plans for 1967 include the construction of a 115-kv. transmission line from Yellowknife to serve the settlement of Rae, N.W.T., development of a Commission-owned diesel plant at Coppermine, N.W.T. and enlargement of the generating plant at Inuvik and Cambridge Bay, N.W.T., and a Moose Factory, Ont.

CHAPTER XVI.—MANUFACTURES*

CONSPECTUS

	PAGE		PAGE
SECTION 1. TECHNOLOGY, MARKETS AND COSTS IN MANUFACTURING.....	689	Subsection 1. Major Historical and Current Statistics of Manufacturing.....	698
SECTION 2. CHANGES IN THE MANUFACTURING INDUSTRIES SINCE 1961.....	694	Subsection 2. Distribution of Manufactur- ing by Province and by Metropolitan Area.....	704
Subsection 1. Employment, Production and Shipments Changes in Industry Groups.....	694	Subsection 3. Size of Manufacturing Estab- lishments Based on Employment and Shipments.....	715
Subsection 2. Provincial Shipments Changes	697		
Subsection 3. Changes in Exports of Manu- factured Goods.....	697	SECTION 4. FEDERAL ASSISTANCE TO MANU- FACTURING.....	718
SECTION 3. STATISTICAL DATA FOR THE MANU- FACTURING INDUSTRIES.....	698		

*The interpretation of the symbols used in the tables throughout the Year Book
will be found on p. xvi of this volume.*

Section 1.—Technology, Markets and Costs in Manufacturing

Analyses of the sales dollar or the production dollar of the manufacturing industries, showing how much of the total is distributed to employees, how much accrues to the owners of the business and what percentage is accounted for by various major expense items, have long been of widespread interest. Such analyses assist management in forming an impression of how the experience of their own particular plant or firm compares with manufacturing as a whole or with a particular industry. They help investors in assessing particular companies, especially in regard to profit ratios. Economists in government, the academic world and elsewhere use them in studying trends in the performance of Canadian industries, and management and union leaders often find them interesting in connection with wage negotiations.

A basic difficulty is that some statistics for the manufacturing industries are gathered from establishments—statistical units corresponding roughly to plants or mills—while other statistics can be gathered only from companies. A company operating establishments in both the mining and manufacturing industries would have its wage bill split between these industries but profit data would relate to both industries; the establishments would be classified to their respective industries but the entire figures of the company must be placed with those of the industry corresponding to its main activity.

Hence, official statistics cannot provide a complete array of the widely demanded ratios, such as salaries and wages to sales or production, or profit to sales, on the same completely comparable basis. However, ratios from the two sources—establishment statistics and company statistics—sometimes jointly offer a general over-all impression of the structure of inputs in an industry, as illustrated by the following figures for 1965 for manufacturing establishments owned by corporations and for entire corporations classified to the manufacturing industries. Although salaries and wages, for instance,

* Sections 1 to 3 were prepared in the Manufacturing and Primary Industries Division, Dominion Bureau of Statistics, and Section 4 in the Information Division, Department of Industry, Ottawa.

might be a higher or lower percentage of revenues on a company basis, the establishment ratio probably gives a reasonably good idea of what its approximate magnitude would be for companies, since individual industries where companies often operate on a substantial scale across the boundaries of the manufacturing universe are not an undue proportion of the total.

<i>Item</i>	<i>Percentage of Total Revenues</i>	
	<i>Manufacturing Establishments Owned by Corporations</i>	<i>Corporations Classified to the Manufacturing Industries</i>
Cost of materials, supplies and goods for resale.....	56.6	..
Cost of fuel and electricity.....	1.8	..
Salaries and wages (excl. "fringe" benefits).....	20.0	..
Other expenses.....	..	..
Capital cost allowances.....	..	4.2
Income tax liabilities.....	..	2.7
Profits after taxes.....	..	3.6

If in the above statement the blanks could be filled in, each column would add to 100 p.c. (There are slight incomparabilities in the definitions of total revenues in the two sets of figures.)

When individual industries and industry groups are compared, various expenses and net profits show a marked variation in relation to production or sales. Table 1 gives an analysis of the gross value of production (total activity) by industry group for 1965. The industry groups are ranked according to their materials-intensity of production, that is, by the total cost of their materials and supplies (and any goods purchased for resale) as a percentage of the gross value of production.

It will be noticed that this materials item, the cost of purchased fuel and electricity, and value added make up 100 p.c. of the gross value of production. Value added is a measure of production within an industry, excluding its purchases of the products or services of other industries. In the Census of Manufactures, the only inputs which it is practicable to survey and deduct from the gross value of production in calculating value added are the cost of materials and supplies laid down at the plant and purchases of fuel and electricity. The "other value added" category, of course, includes depreciation and profits, although company statistics rather than the establishment statistics represented in Table 1 must be used to obtain a measure of these items. Net earnings capital cost allowances and net profit before taxes by industry group in 1965 are shown on a company basis in Table 2; 1966 data are available for these ratios and have been included and also, because net profits are highly variable and trends in profit ratios are of considerable interest, net profits for a number of earlier years are shown. (Net earnings equal net profit before taxes plus capital cost allowances.)

Value added is often termed net production, in contrast to the gross value of production. (The gross value of production differs from total shipments and other revenue by the amount of net changes in inventories of goods in process and finished goods.) Because it is, as noted, a measure of the production within the particular industry, analyses based on it are also of interest. Table 3 shows a percentage analysis of total value added by industry group for 1965, with the industry groups ranked by their labour-intensity of production, as measured by total wages and salaries as a percentage of total value added. For its possible interest, the cost of fuel and electricity per dollar of value added by manufacture is shown.

It is to be noted that statistics of the manufacturing industry relate to "manufacturing activity" or "total activity" according to whether or not non-manufacturing activities of manufacturing establishments have been included; since many manufactures cannot split payrolls between manufacturing and non-manufacturing activity, tot

activity is a useful basis for study. Total activity is used in Tables 1 and 2, except for the ratio of fuel and electricity costs to value added by manufacture. A more detailed examination of similar ratios for individual industries rather than industry groups would reveal certain relationships between cost profiles and the technology of industries, and the type of economic use or market served by them.

From Table 1 it will be seen that four industry groups make much more intense use of purchased fuel and electricity than manufacturing as a whole. In descending order of their fuel and electricity costs as a percentage of gross value of production, these industry groups are: non-metallic mineral products industries (including cement manufacturers), paper and allied products industries, the primary metal industries, and the chemical and chemical products industries. The last group does include some secondary manufacturing, as do the other groups, but in general these four industry groups are primarily engaged in transforming natural resources into inputs for other industries. Manufacturing processes characteristic of some industries in these groups include heat-consuming types of chemical transformation of materials or the mechanical attrition of materials, with consequent heavy demands for energy. They are also generally capital-intensive industries, as evidenced by payrolls being below the average for manufacturing as a percentage of total value added, and net earnings and profit ratios (Table 2) being well above the average for manufacturing. (Although profits ratios also reflect other features of a company's financial structure, capital-intensity tends to create a necessity for a higher profit ratio on sales for a given return on the owner's investment as well as on the total assets.)

In all four groups except the chemical industries, salaries are a low percentage of payrolls by comparison with all manufacturing. The chemical industries, like the petroleum and coal products industries, have a high proportion of highly paid specialist employees and a high ratio of salaries to payroll. The petroleum and coal products industries, although also engaged in the chemical transformation of natural resources like some of the individual chemical industries, have a very low ratio of payroll to gross value of production and to value added and (as shown in Table 1) are the most materials-intensive industry group of all. This is partly because oil companies are split statistically into establishments in the mineral industries, regarded as selling to their own companies' (or others') refineries, while, for instance, cement plants in the non-metallic mineral products industries typically quarry their most important materials within accounting units included in the manufacturing industries. Refineries are also able to make use of products of their own processes, reducing the cost of purchased fuel. Many considerations like these affect industrial ratios.

Although it is difficult to generalize about materials-intensity, it will be noticed that the five industry groups in Table 1 showing greater materials-intensity than all manufacturing industries use large amounts of natural resources or may transform or assemble considerable quantities of imported materials or parts. (The motor vehicle industry, which assembles large quantities of parts, many imported, is included in the transportation equipment industries.)

The labour-intensive industries constitute a clearly recognizable class of industry at the industry group level. This characteristic may be measured on the basis of gross value of production (Table 1) or in respect to total value added (Table 3). Table 3 shows that some of the industries most subject to import competition are at the top range of labour-intensity, on the basis of value added; the natural resource industries, except for the wood products industries, tend to be at the lower end of the scale. Comparison of wages and salaries as a percentage of value added indicates that salaries tend to be low in relation to wages; that is, production labour tends to bulk larger in the over-all payroll than for manufacturing as a whole. The fuel-intensity, measured in Table 3 by costs of purchased energy per dollar of value added by manufacture, tends to be low in the labour-intensive industries. It is also noteworthy that industries at the top end of the scale tend to sell finished products.

1.—Analysis of Gross Value of Production (Total Activity), by Industry Group, 1965

(Ranked according to cost of materials expressed as percentage of gross value of production)

Industry Group	Cost of Materials, Supplies and Goods for Resale	Cost of Fuel and Electricity	Value Added, Total Activity					Total
			Wages and Salaries			Other	Total Value Added	
			Wages	Salaries	Total			
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Petroleum and coal products industries.....	81.2	0.8	2.9	3.9	6.8	11.1	17.9	100.0
Food and beverage industries.....	66.7	1.2	7.3	6.3	13.6	18.5	32.0	100.0
Transportation equipment industries.....	63.4	0.6	12.9	5.7	18.6	17.4	36.0	100.0
Tobacco products industries.....	58.3	0.4	9.1	4.0	13.1	28.2	41.4	100.0
Textile industries.....	57.4	1.4	15.7	7.1	22.8	18.4	41.2	100.0
Knitting mills.....	56.6	0.7	18.9	6.0	24.9	17.8	42.6	100.0
Wood industries.....	56.1	1.9	20.3	4.8	25.1	17.0	42.1	100.0
Clothing industries.....	54.4	0.3	21.8	7.4	29.2	16.1	45.2	100.0
Electrical products industries.....	53.9	0.6	13.4	11.7	25.1	20.4	45.5	100.0
Primary metal industries.....	53.2	3.8	15.1	5.4	20.5	22.5	43.1	100.0
Metal fabricating industries.....	51.9	1.0	17.4	7.7	25.1	22.0	47.1	100.0
Leather industries.....	51.6	0.7	23.8	7.0	30.8	16.9	47.7	100.0
Machinery industries.....	51.0	0.6	13.5	10.6	24.1	24.3	48.4	100.0
Rubber industries.....	51.0	1.2	15.8	8.9	24.7	23.1	47.8	100.0
Paper and allied industries.....	50.3	5.2	14.7	6.0	20.7	23.8	44.6	100.0
Furniture and fixture industries.....	50.2	0.9	21.6	7.8	29.4	19.4	48.8	100.0
Chemical and chemical products industries.....	49.9	3.0	7.4	10.2	17.5	29.6	47.1	100.0
Miscellaneous manufacturing industries.....	47.5	0.8	16.3	11.0	27.3	24.3	51.6	100.0
Non-metallic mineral products industries.....	42.6	5.4	16.2	6.9	23.1	28.9	52.0	100.0
Printing, publishing and allied industries.....	33.6	0.7	20.3	16.8	37.1	28.6	65.7	100.0
All Industries.....	56.7	1.8	13.2	7.4	20.6	20.9	41.5	100.0

2.—Net Profit Before Taxes, 1961-66, and Related Data, 1965 and 1966, as Percentage of Sales of Corporations Classified to the Manufacturing Industries

Industry Group	Net Earnings		Capital Cost Allowances		Net Profit Before Taxes					
	1965	1966	1964	1966	1961	1962	1963	1964	1965	1966
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Food and beverage industries.....	8.2	7.5	2.4	2.1	5.1	4.9	5.4	5.6	5.8	5.4
Rubber industries.....	9.0	9.7	3.7	4.8	5.1	3.8	4.8	5.2	5.3	4.9
Textile industries.....	6.9	5.9	3.5	3.5	3.6	3.6	4.1	3.6	3.4	2.4
Wood industries.....	11.6	10.5	6.0	5.3	4.2	5.9	6.8	6.8	5.6	5.2
Paper and allied industries.....	17.0	14.9	8.2	8.8	12.0	12.1	11.1	11.0	8.9	6.1
Printing, publishing and allied industries.....	12.3	11.2	4.5	3.8	6.5	6.8	6.3	7.6	7.8	7.4
Primary metal industries.....	17.6	15.7	9.2	9.2	8.6	8.1	7.6	7.2	8.4	6.6
Metal fabricating industries.....	8.3	8.0	2.7	2.7	4.6	4.5	4.9	5.4	5.6	5.3
Machinery industries.....	11.3	11.5	2.9	3.3	4.8	6.9	9.1	9.1	8.3	8.2
Transportation equipment industries.....	7.4	5.8	2.1	2.0	6.3	8.3	8.7	6.3	5.2	3.7
Electrical products industries.....	8.6	8.2	3.7	3.8	2.9	3.9	4.1	4.9	5.0	4.4
Non-metallic mineral products industries.....	14.7	13.9	6.2	6.4	6.8	7.7	7.8	7.9	8.4	7.5
Petroleum and coal products industries.....	8.5	9.0	3.9	3.8	6.4	4.6	4.2	4.4	4.6	5.2
Chemical and chemical products industries.....	14.8	13.9	5.7	5.1	7.0	8.1	9.2	9.5	9.1	8.7
Other manufacturing industries.....	7.9	8.8	2.3	2.4	5.2	4.9	5.0	5.1	5.6	6.5
All Industries.....	10.5	9.7	4.2	4.1	6.0	6.2	6.6	6.5	6.3	5.6

3.—Analysis of Value Added, by Industry Group, 1965

(Ranked according to wages and salaries expressed as percentage of value added)

Industry Group	Percentage of Value Added, Total Activity				Cost of Fuel and Electricity per Dollar of Value Added, Manufacturing Activity
	Wages and Salaries			Other Value Added	
	Wages	Salaries	Total		
	p.c.	p.c.	p.c.	p.c.	\$
Clothing industries.....	48.2	16.3	64.5	35.5	0.01
Leather industries.....	49.8	14.7	64.5	35.5	0.02
Furniture and fixture industries.....	44.3	16.0	60.3	39.7	0.02
Wood industries.....	48.2	11.5	59.6	40.4	0.05
Knitting mills.....	44.3	14.1	58.3	41.7	0.02
Printing, publishing and allied industries.....	30.8	25.6	56.4	43.6	0.01
Textile industries.....	38.1	17.2	55.3	44.7	0.03
Electrical products industries.....	29.5	25.6	55.1	44.9	0.02
Metal fabricating industries.....	36.9	16.4	53.4	46.6	0.02
Miscellaneous manufacturing industries.....	31.7	21.3	53.0	47.0	0.02
Transportation equipment industries.....	35.9	15.8	51.7	48.3	0.02
Rubber industries.....	33.1	18.6	51.7	48.3	0.03
Machinery industries.....	27.9	21.8	49.8	50.2	0.01
Primary metal industries.....	35.0	12.7	47.7	52.3	0.09
Paper and allied industries.....	33.0	13.5	46.5	53.5	0.12
Non-metallic mineral products industries.....	31.1	13.3	44.5	55.5	0.11
Food and beverage industries.....	22.8	19.6	42.3	57.7	0.04
Petroleum and coal products industries.....	16.1	22.0	38.1	61.9	0.05
Chemical and chemical products industries.....	15.6	21.6	37.2	62.8	0.07
Tobacco products industries.....	22.1	9.7	31.8	68.2	0.01
All Industries.....	31.8	17.8	49.6	50.4	0.05

The type of market served by an industry has the most obvious and direct impact when advertising expenses are considered. Table 4 shows advertising expenditures as a percentage of shipments of goods of own manufacture by various industry groups in 1965.* An attempt has been made to arrange the industry groups informally into meaningful categories according to the degree of orientation toward the consumer or otherwise. The influence of a consumer market is clearly in the direction of higher relative advertising expenses, although industries selling chiefly to consumer markets fall into two general categories, one with much higher advertising ratios than the other. Convenience goods tend to occasion high advertising ratios, as do some specialty goods. Mainly consumer-oriented industries like toilet preparations manufacturers and manufacturers of pharmaceuticals and medicines and of soaps and cleaning compounds are actually the reason for the high advertising ratio of the chemical and chemical products industries group although it contains large volumes of non-consumer-oriented production. Similarly, the miscellaneous manufacturing industries include such consumer-goods industries as clock and watch manufacturers, the toys and games industry and pen and pencil manufacturers. Among the clearly non-consumer-oriented industries, producers of basic industrial materials sold in bulk tend to have the lowest advertising ratios. (Importance of export markets is an incidental feature of some of these industries.)

* Results of this survey, the first since 1954, will be published by the Merchandising and Services Division of the Dominion Bureau of Statistics in 1968.

4.—Advertising Expenditures as a Percentage of Shipments, by Market Characteristics and Industry Group, 1965

Market Characteristics and Industry Group	Advertising Ratio	Market Characteristics and Industry Group	Advertising Ratio
Mainly or Exclusively Non-consumer Markets—		Consumer and Non-consumer Markets (both large)—continued	
Primary metal industries.....	0.16	Petroleum and coal products industries.....	1.15
Wood industries.....	0.18	Rubber industries.....	1.27
Paper and allied industries.....	0.36	Miscellaneous manufacturing industries.....	2.17
Non-metallic mineral products industries.....	0.55	Chemical and chemical products industries.....	3.84
Metal fabricating industries.....	0.62		
Textile industries.....	0.81	Mainly Consumer Markets—	
Machinery industries.....	0.84	Clothing and Related Markets—	
		Leather industries.....	0.90
Consumer and Non-consumer Markets (both large)—		Clothing industries.....	1.01
Transportation equipment industries...	0.90	Knitting mills.....	1.09
Printing, publishing and allied industries	1.02	Frequent Small Purchases by Consumers—	
Furniture and fixture industries.....	1.09	Food and beverage industries.....	2.03
Electrical products industries.....	1.15	Tobacco industries.....	3.36

Section 2.—Changes in the Manufacturing Industries since 1961

Employment in the manufacturing industries in 1965 showed its largest annual percentage increase since the beginning of the expansionary phase of the business cycle in 1961. There were marked influences from rising fixed capital formation in the economy, higher consumer expenditures, especially on durable goods, and higher exports. Production continued to rise in the motor vehicles industry, reflecting the increase in consumer purchases and also early export effects of the Canada-United States Agreement on Automotive Products, signed in January 1965. In fact, motor vehicle manufacturers made the largest single contribution of any industry to the over-all increase in employment in 1965 and replaced pulp and paper mills as Canada's largest manufacturing industry in terms of value of shipments. The second largest numerical contribution to increased employment came from miscellaneous machinery and equipment manufacturers.

The value of shipments of goods of own manufacture of the manufacturing industries reached \$33,889,000,000 in 1965, an increase of 9.8 p.c. over 1964; this advance was about the same as the average annual rate of increase over the 1961-65 period (9.6 p.c.). Value added by manufacture rose by 10.3 p.c. in 1965 to a total of \$14,928,000,000. The monthly survey of shipments of manufacturers indicates that shipments reached \$36,709,000,000 in 1966 and \$37,474,000,000 in 1967.*

Subsection 1.—Employment, Production and Shipments Changes in Industry Groups

Analyses of recent changes in employment in various industry groups are given in Tables 5 and 6; Table 5 shows the sources of the increase in over-all employment by industry group for the 1961-65 period, based on the annual Census of Manufactures, and Table 6 shows percentage changes, on a year-to-year and an average annual basis, for the same period.

The volume of production by industry group, using the unrevised (1948) standard industrial classification, not wholly comparable with other statistics presented here, is shown for several recent years in Table 7. [Indexes of the volume of production, which exclude the effects of price changes and generally relate to net production and which are based on the revised (1960) standard industrial classification, will be available in mid-1968.] The 1967 indexes are preliminary.

* DBS publication, *Inventories, Shipments and Orders in the Manufacturing Industries* (Catalogue No. 31-001).

The value of shipments of goods of own manufacture by industry group for selected years is given in Table 8; data for 1966 and 1967 are preliminary, based on the monthly survey.*

* DBS publication, *Inventories, Shipments and Orders in the Manufacturing Industries* (Catalogue No. 31-001).

5.—Percentages of the Over-all Increase in Employment in the Manufacturing Industries Accounted for by Industry Groups, 1961-65

Industry Group	Percentages of Total Change				
	1961-62	1962-63	1963-64	1964-65	1961-65
Food and beverage industries.....	-1.2	-0.5	7.4	7.2	4.6
Tobacco products industries.....	2.0	-0.4	-0.2	-0.8	-0.1
Rubber industries.....	2.6	3.8	1.2	1.6	2.0
Leather industries.....	-0.9	-0.9	-0.4	0.2	-0.3
Textile industries.....	8.0	6.6	6.3	2.8	5.4
Knitting mills.....	0.3	-0.7	0.6	1.4	0.6
Clothing industries.....	-4.5	1.8	6.2	2.8	2.5
Food industries.....	3.7	9.5	3.8	2.8	4.4
Furniture and fixture industries.....	2.4	4.3	3.1	3.0	3.2
Paper and allied industries.....	4.8	4.1	7.2	4.9	5.5
Printing, publishing and allied industries.....	-1.8	1.7	0.4	4.2	1.6
Primary metal industries.....	4.8	6.7	9.6	9.0	8.1
Metal fabricating industries.....	23.1	10.3	11.8	16.4	15.1
Machinery industries.....	10.3	12.5	7.6	8.6	9.2
Transportation equipment industries.....	15.3	19.2	18.1	14.8	16.6
Electrical products industries.....	19.6	12.9	6.3	10.2	11.1
Non-metallic minerals industries.....	5.8	1.6	3.7	3.4	3.6
Petroleum and coal products industries.....	-0.3	-2.4	-0.6	-0.9	-0.9
Chemical and chemical products industries.....	1.5	4.4	2.9	4.5	3.5
Miscellaneous manufacturing industries.....	4.3	5.4	4.6	3.9	4.4
All Industries.....	106.0	100.0	100.0	100.0	100.0

6.—Year-to-Year and Average Annual Percentage Change in Total Employees, by Industry Group, 1961-65

(Ranked according to average growth rate)

Rank	Industry Group	Year-to-Year Percentage Change				Average Annual Percentage Change
		1961-62	1962-63	1963-64	1964-65	
1	Machinery industries.....	+7.5	+8.2	+8.5	+10.6	+8.6
2	Transportation equipment industries.....	+5.7	+6.6	+10.7	+9.5	+8.2
3	Metal fabricating industries.....	+8.4	+3.4	+6.8	+10.7	+6.9
4	Electrical products industries.....	+8.1	+4.8	+4.1	+7.6	+5.8
5	Furniture and fixture industries.....	+2.6	+4.5	+5.8	+6.3	+4.9
6	Rubber industries.....	+4.4	+6.0	+3.4	+4.9	+4.7
7	Primary metal industries.....	+2.0	+2.6	+6.7	+7.1	+4.6
8	Textile industries.....	+4.5	+3.5	+5.9	+3.0	+4.3
9	Miscellaneous manufacturing industries.....	+3.0	+3.6	+5.4	+5.1	+4.3
10	Non-metallic mineral industries.....	+5.0	+1.3	+5.3	+5.6	+4.1
11	Paper and allied industries.....	+1.8	+1.5	+4.7	+3.6	+2.9
12	Wood industries.....	+1.7	+4.1	+2.9	+2.4	+2.9
13	Chemical and chemical products industries.....	+0.9	+2.5	+3.0	+5.3	+2.8
14	Clothing industries.....	-1.8	+0.7	+4.4	+2.3	+1.6
15	Knitting mills.....	+0.6	-1.1	+1.8	+4.8	+1.3
16	Food and beverage industries.....	-0.2	-0.1	+2.3	+2.7	+1.1
17	Printing, publishing and allied industries.....	-0.9	+0.8	+0.4	+4.4	+1.0
18	Tobacco products industries.....	+7.2	-1.1	-1.3	-5.7	-0.5
19	Leather industries.....	-1.0	-0.9	-0.7	+0.6	-0.6
20	Petroleum and coal products industries.....	-0.7	-5.4	-2.5	-4.5	-3.4
	All Industries.....	+2.7	+2.6	+4.6	+5.3	+3.8

7.—Indexes of Volume of Manufacturing Production for Major Industry Groups, 1962-67 (1949=100)

Industry Group	1962	1963	1964	1965	1966	1967 ^a	Percentage Change	
							1965-66	1966-67
Non-durable Manufacturing	183.5	194.9	212.2	224.1	240.4	244.9	+7.3	+1.9
Food and beverages.....	167.3	172.2	185.6	193.1	204.9	213.2	+6.1	+4.1
Tobacco products industries.....	210.0	220.9	225.3	243.4	258.1	260.8	+6.0	+1.0
Rubber industries.....	182.5	207.4	232.8	237.4	258.5	255.3	+8.9	-1.2
Leather industries.....	130.8	132.1	137.3	135.2	137.9	132.1	+2.0	-4.2
Textile industries.....	167.7	186.0	203.3	220.6	233.1	234.8	+5.7	+0.7
Clothing industries.....	141.9	150.3	163.4	171.2	179.2	172.0	+4.7	-4.0
Paper and allied industries.....	163.7	170.1	186.3	198.3	216.1	217.7	+9.0	+0.7
Printing, publishing and allied industries.....	189.5	195.2	207.4	223.3	239.7	249.5	+7.3	+4.1
Petroleum and coal products.....	291.1	318.0	330.1	345.9	371.6	387.0	+7.4	+4.1
Chemical and chemical products industries.....	262.9	282.5	312.7	344.7	377.5	390.4	+9.5	+3.4
Miscellaneous manufacturing industries.....	302.0	353.0	386.5	407.3	448.8	461.1	+0.2	+2.7
Durable Manufacturing	178.5	192.9	212.7	237.2	255.2	256.1	+7.6	+0.4
Wood industries.....	158.6	167.3	174.3	181.7	189.2	187.7	+4.1	-0.8
Iron and steel products.....	174.5	191.0	215.2	239.1	253.1	248.4	+5.9	-1.9
Transportation equipment.....	165.3	190.2	210.5	250.0	273.8	286.7	+9.5	+4.7
Non-ferrous metal products.....	158.8	159.8	174.2	186.9	195.7	201.6	+4.7	+3.0
Electrical products industries.....	236.5	254.9	279.1	319.2	368.8	371.5	+5.5	+0.7
Non-metallic mineral products.....	232.5	235.0	268.2	286.9	296.3	278.0	+3.3	-6.2
All Manufacturing Industries	181.2	193.9	211.9	230.1	247.2	250.0	+7.4	+1.1

8.—Value of Shipments of Goods of Own Manufacture, by Industry Group, Selected Years, 1961-67

Industry Group	1961	1964	1965	1966 ^a	1967 ^a	Change 1966-67 ^b
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	p.c.
Food and beverage industries.....	5,039.5	6,127.2	6,428.8	7,012.1	7,322.7	+ 4.4
Tobacco products industries.....	334.9	348.8	379.8	414.2	493.4	+ 9.1
Rubber industries.....	331.1	426.6	474.5	548.2	576.8	+ 5.2
Leather industries.....	291.2	328.0	343.1	397.8	386.3	- 2.9
Textile industries.....	874.5	1,204.6	1,276.7	1,298.0	1,303.9	+ 0.5
Knitting mills.....	219.4	277.3	308.9	305.2	293.9	- 3.7
Clothing industries.....	802.7	991.7	1,063.4	1,114.8	1,014.6	- 9.0
Wood industries.....	1,036.2	1,395.9	1,487.6	1,665.4	1,591.9	+ 1.7
Furniture and fixture industries.....	359.6	470.3	525.2	578.3	590.2	+ 2.1
Paper and allied industries.....	2,203.5	2,707.3	2,882.0	3,151.3	3,211.8	+ 1.9
Printing, publishing and allied industries.....	854.8	983.9	1,085.2	1,111.1	1,111.1	.. 2.3
Primary metal industries.....	1,937.0	2,546.9	2,854.0	3,010.4	2,940.4	- 5.9
Metal fabricating industries.....	1,510.6	2,137.1	2,466.8	2,651.7	2,495.3	- 0.3
Machinery industries.....	658.3	1,077.7	1,235.4	1,382.1	1,377.5	+10.7
Transportation equipment industries.....	1,845.8	3,197.7	3,865.0	4,257.1	4,710.9	- 0.4
Electrical products industries.....	1,208.3	1,704.0	1,902.5	2,162.5	2,154.1	- 8.3
Non-metallic mineral products industries.....	676.0	918.2	1,038.0	1,090.4	999.5	+ 5.4
Petroleum and coal products industries.....	1,219.2	1,418.5	1,430.6	1,506.2	1,588.1	+ 1.8
Chemical and chemical products industries.....	1,435.8	1,798.0	1,973.3	2,163.6	2,203.2	+ 7.0
Miscellaneous manufacturing industries.....	600.5	796.0	868.7	927.9	993.2	+ 2.1
All Industries	23,439.0	30,856.1	33,889.4	36,709.3	37,474.3	

Subsection 2.—Provincial Shipments Changes

The value of shipments of goods of own manufacture includes the effects of price changes but nevertheless affords an interesting basis for comparing the relative expansion of different areas of Canada. In Table 9, annual shipments are shown for selected years in the 1961-67 period; 1966 and 1967 figures are based on the monthly survey and are preliminary.

9.—Value of Shipments of Goods of Own Manufacture, by Province, Selected Years, 1961-67

Province or Territory	1961	1964	1965	1966 ^p	1967 ^p	Change, 1966-67
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	p.c.
Newfoundland.....	135.9	165.8	174.5	175.0	158.4	-9.5
Prince Edward Island.....	30.6	40.7	43.1	..	..	..
Nova Scotia.....	381.4	523.7	563.2	591.7	606.0	+2.4
New Brunswick.....	390.6	494.4	512.7	537.7	551.2	+2.5
Quebec.....	7,022.2	8,773.9	9,492.2	10,166.8	10,261.0	+0.9
Ontario.....	11,563.7	15,842.9	17,675.9	19,322.4	19,831.8	+2.6
Manitoba.....	716.7	861.4	913.4	983.5	1,007.0	+2.4
Saskatchewan.....	331.9	381.8	421.5	452.1	448.4	-0.8
Alberta.....	935.5	1,193.8	1,283.3	1,374.4	1,432.5	+4.2
British Columbia.....	1,927.0	2,573.8	2,806.2	3,055.5	3,132.5	+2.5
Yukon and Northwest Territories...	3.4	3.9	3.6	..	..	..
Canada.....	23,439.0	30,856.1	33,889.4	36,709.3	37,474.3	+2.1

Subsection 3.—Changes in Exports of Manufactured Goods

Exports of manufactured goods in 1965 were apparently equal to about 16 p.c. of the value of shipments of goods of own manufacture by the manufacturing industries in that year. The proportion in 1966 was 18 p.c., using preliminary estimates of total manufacturers' shipments. Manufacturers do not regularly report shipments on the basis of their destination but it is believed that the domestic exports of fabricated materials and of end products together approximate total exports of Canadian manufactures. Exports of end products approximate exports of finished manufactured goods, although the classification includes a very small amount of non-manufactured goods. The following statement shows exports of fabricated materials and end products compared with total shipments of manufacturers in 1961 and 1964-66 (some figures do not add due to rounding):—

Item	1961	1964	1965	1966
	(\$'000,000)			
Domestic Exports of—				
Fabricated materials.....	2,916.4	3,714.2	3,923.5	4,217.0
End products.....	706.4	1,420.8	1,606.3	2,455.1
Manufactured Goods (approx.).....	3,622.9	5,135.0	5,529.8	6,672.1
Shipments of goods of own manufacture.....	23,439.0	30,856.0	33,889.4	36,709.3

Section 3.—Statistical Data for the Manufacturing Industries

Subsection 1.—Major Historical and Current Statistics of Manufacturing

Statistics on manufacturing in Canada have been collected since 1870, originally in connection with the decennial or quinquennial censuses for the period 1870 to 1915 and since 1917, through the annual Census of Manufactures. Although every effort has been made to maintain comparability in the statistics since 1917, as shown in Table 10, change in coverage of industries, type of data collected and the method of its treatment have inevitably introduced discontinuities or lack of comparability in certain components. On such major change in concept occurred in 1952 when the gross value of products was replaced by the value of factory shipments. More recently, the introduction of the revised standard industrial classification in 1960 and the new establishment concept in 1961 led to a break in continuity with previous years. An indication of the effects of these revisions in classification and concept is given in Table 10 where statistics for the 1957-59 period are given on both the 1948 standard industrial classification and manufacturing activity concept and the revised (1960) standard industrial classification and new establishment concept. Under the latter concept, a manufacturing establishment (i.e., one whose major activity is manufacturing) is the smallest reporting unit capable of reporting all of the following: materials and supplies used, goods purchased for resale as such, fuel and power consumed, number of employees and their pay, inventories, and shipments or sales.

The introduction of the total activity concept in 1962 and its application to 1961 data produced a considerable amount of data on non-manufacturing activities of manufacturing industries and has resulted in the transfer of statistics on some items, such as office and administrative workers and working owners and partners, from manufacturing to total activity. Table 11 sets out summary statistics for manufacturing activity and total activity for 1961-65. It should be noted that the 1961 data in Table 11 are not directly comparable with those for the same year in Table 10.

10.—Summary Statistics of Manufactures, 1917-61

NOTE.—Figures for intervening years from 1918 to 1949, not included in this table, are given in the 1962 Year Book, p. 616. Statistics of manufacturing from 1870 have been published but between that year and 1917 figures are not on a basis comparable to the series given below; statistics for significant years appear in the 1943-44 Year Book, p. 363. Figures of the non-ferrous metal smelting industries were first included with manufactures in 1925.

Year	Establishments	Employees ¹	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture ²	Value of Shipment of Goods of Own Manufacture
BASIS: INDUSTRIAL CLASSIFICATION IN USE PRIOR TO 1960						
	No.	No.	\$'000	\$'000	\$'000	\$'000
1917.....	21,845	606,523	497,802	1,539,679	1,281,132	2,820,81
1920.....	22,532	598,893	717,494	2,085,272	1,621,273	3,706,54
1925.....	20,981	522,924	569,944	1,571,788	1,167,937	2,816,88
1930 ⁴	22,618	614,696	697,555	1,664,788	1,522,737	3,280,22
1935 ⁴	24,034	556,664	559,468	1,419,146	1,153,485	2,653,91
1940.....	25,513	762,244	920,873	2,449,722	1,942,471	4,529,11
1945.....	29,050	1,119,372	1,845,773	4,473,669	3,564,316	8,250,31
1950 ⁵	35,942	1,183,297	2,771,267	7,538,535	5,942,058	13,817,51
1951.....	37,021	1,258,375	3,276,281	9,074,526	6,940,947	16,392,11
1952.....	37,929	1,288,382	3,637,620	9,146,172	7,443,533	16,982,61
1953.....	38,107	1,327,451	3,957,018	9,380,559	7,993,069	17,785,4
1954.....	38,028	1,267,966	3,896,688	9,241,858	7,902,124	17,554,5
1955.....	38,182	1,298,461	4,142,410	10,338,202	8,753,450	19,513,9
1956.....	37,428	1,353,020	4,570,622	11,721,537	9,605,425	21,636,7
1957.....	37,875	1,359,061	4,819,628	11,900,752	9,822,085	22,183,5
1958.....	36,741	1,289,602	4,802,496	11,821,567	9,454,955	22,163,1
1959.....	36,193	1,303,956	5,073,074	12,552,201	10,320,963	23,311,6

For footnotes, see end of table.

10.—Summary Statistics of Manufactures, 1917-61—concluded

Year	Estab-lish-ments	Employees ¹	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture ²	Value of Shipments of Goods of Own Manufacture ³
BASIS: REVISED STANDARD INDUSTRIAL CLASSIFICATION AND NEW ESTABLISHMENT CONCEPT						
	No.	No.	\$'000	\$'000	\$'000	\$'000
1957.....	33,551	1,340,948	4,778,040	11,698,789	..	21,452,343
1958.....	32,446	1,272,686	4,758,614	11,630,825	9,454,954	21,434,815
1959.....	32,075	1,287,809	5,030,128	12,339,558	10,154,277	22,830,827
1960.....	32,852	1,275,476	5,150,503	12,451,637	10,371,284	23,279,804
1961.....	32,415	1,264,946	5,231,447	13,127,708	10,682,138	24,243,295

¹ Includes working owners and partners.² For 1924-51, inclusive, the value added by manufacture is computed by subtracting cost of fuel, electricity and materials from gross value of products; for 1952 and 1953 the deduction is made from value of factory shipments and for 1954 and subsequent years from the calculated value of production. Figures prior to 1924 are not comparable because statistics for cost of electricity are not available.³ Prior to 1952, gross value of products.⁴ A change in the method of computing the number of employees in the years 1925 to 1930, inclusive, increased the number somewhat over that which the method otherwise used would have given. In 1931, however, the method in force prior to 1925 was re-adopted.⁵ Newfoundland is included from 1949 but figures for the fish processing industry for 1949 and 1950 are not available for that province and are not included.

11.—Summary Statistics of Manufactures, 1961-65

NOTE.—Based on the revised standard industrial classification and new establishment and total activity concepts. Figures in this table include poultry processors, book publishers, electroplating establishments, dental laboratories, and prescription branches in the ophthalmic goods manufactures industry, not included in Table 10.

Year	MANUFACTURING ACTIVITY ¹							
	Estab-lish-ments	Production and Related Workers			Cost of Fuel and Elec-tricity ²	Cost of Materials and Supplies Used	Value of Shipments of Goods of Own Manu-facture	Value Added
		Number	Man-Hours Paid	Wages				
	No.		'000	\$'000	\$'000	\$'000	\$'000	\$'000
1961.....	33,357	939,413	1,968,163	3,532,943	516,409	12,579,798	23,438,956	10,434,832
1962.....	33,414	974,376	2,071,376	3,834,514	540,447	13,974,877	25,790,087	11,429,644
1963.....	33,119	1,003,566	2,137,977	4,095,916	564,387	15,337,534	28,014,888	12,272,734
1964.....	33,630	1,057,502	2,265,188	4,513,633	615,108	16,928,476	30,856,099	13,535,991
1965.....	33,310	1,115,892	2,384,002	5,012,345	675,641	18,622,213	33,889,425	14,927,764
TOTAL ACTIVITY								
Estab-lish-ments	Working Owners and Partners ³		Total Employees ⁴		Total Cost of Materials and Supplies ⁵ Used and Goods Purchased for Resale	Total Operational Revenue ⁶	Total Value Added ⁷	
	Number	With-drawals	Number	Salaries and Wages				
		No.		\$'000		\$'000	\$'000	\$'000
1961.....	33,357	16,989	57,980	1,352,605	5,701,651	14,564,247	25,895,611	10,931,561
1962.....	33,414	17,228	60,744	1,389,516	6,096,174	16,118,144	28,473,319	11,986,666
1963.....	33,119	16,030	59,426	1,425,440	6,495,289	17,558,196	30,823,107	12,875,073
1964.....	33,630	15,747	60,098	1,491,257	7,080,939	19,467,899	34,071,582	14,247,184
1965.....	33,310	14,620	59,457	1,570,299	7,822,925	21,563,010	37,638,412	15,785,311

¹ Conceptually identical to previous years.² Cannot be reported separately for manufacturing and non-manufacturing activities but related substantially to manufacturing activity.³ Included with administrative and office employees in Table 10.⁴ Includes production and related workers, administrative and office employees, sales, distribution and other employees; excludes working owners and partners.⁵ Includes supplies used in both manufacturing and non-manufacturing activity.⁶ Includes shipments of goods of own manu-facture, value of shipments of goods purchased for resale and other operational revenue.⁷ Value of total operational revenue less total cost of materials, supplies, fuel and electricity used and goods purchased for resale in the same condition; all adjusted for inventory changes where required.

12.—Summary Statistics of Manufactures, by Industry Group, 1964 and 1965

NOTE.—Based on the revised standard industrial classification and new establishment and total activity concepts.

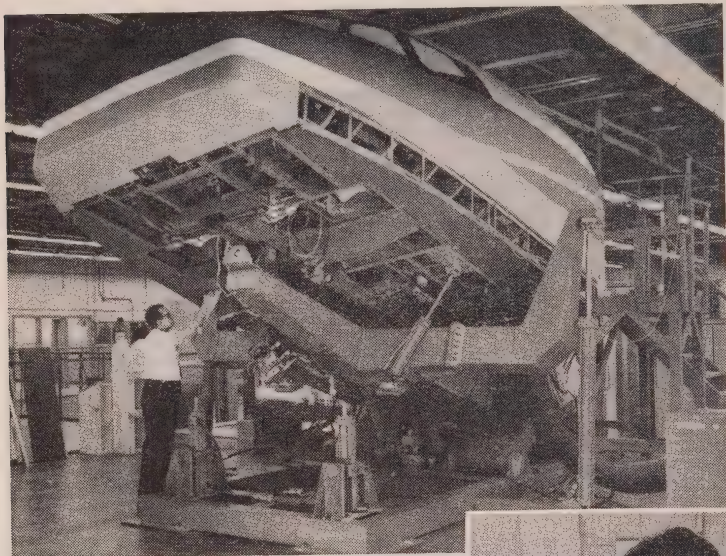
Industry Group and Year	Estab-lish-ments	MANUFACTURING ACTIVITY										TOTAL ACTIVITY		
		Production and Related Workers					Cost of Fuel and Elec-tricity	Cost of Materials and Supplies Used	Value of Ship-ments of Goods and of Own Manu-facture	Value Added	Total Employees		Total Value Added	
		Number	Man-Hours Paid	Wages	Number	Salaries and Wages								
							'000	\$'000	\$'000	\$'000	\$'000	\$'000		
	No.												\$'000	\$'000
Food and beverage industries.....	1964	7,407	131,120	281,606	486,824	82,125	3,998,764	6,127,245	2,056,885	214,986	905,641	2,161,087		
	1965	7,150	135,110	287,942	522,768	87,681	4,182,451	6,428,799	2,189,443	220,700	971,700	2,295,474		
Tobacco products industries.....	1964	39	8,219	16,039	34,288	1,309	218,876	348,811	135,863	10,867	49,634	139,166		
	1965	38	7,880	15,649	35,328	1,435	219,013	379,772	158,376	10,253	50,806	159,994		
Rubber industries.....	1964	95	17,575	38,175	79,354	6,315	208,955	426,624	218,403	24,972	122,530	228,333		
	1965	96	18,185	38,839	85,938	6,707	223,052	474,489	247,429	26,206	134,151	259,667		
Leather industries.....	1964	543	27,994	57,419	82,075	2,488	165,445	328,055	163,812	32,404	105,673	164,970		
	1965	544	28,083	57,298	84,825	2,584	173,468	343,055	167,491	32,585	109,806	170,208		
Textile industries.....	1964	939	58,963	128,674	202,035	17,844	663,672	1,204,563	541,968	74,455	291,933	549,764		
	1965	960	60,522	130,748	217,054	19,348	709,835	1,276,657	558,403	76,676	315,082	569,574		
Knitting mills.....	1964	364	19,840	42,743	54,623	2,125	157,821	277,347	122,766	22,972	72,383	122,807		
	1965	361	20,911	44,591	59,701	2,329	174,335	308,890	134,871	24,070	78,661	134,907		
Clothing industries.....	1964	2,335	82,945	165,950	224,443	3,355	536,363	991,729	464,218	96,408	299,938	467,290		
	1965	2,315	84,668	168,026	240,286	3,584	572,833	1,063,401	495,411	98,659	321,730	498,694		
Wood industries.....	1964	4,594	76,278	164,329	295,095	27,749	771,101	1,395,911	621,141	89,407	367,005	634,739		
	1965	4,206	78,389	169,301	322,232	29,564	818,177	1,487,600	655,177	91,589	398,939	668,894		
Furniture and fixture industries.....	1964	2,216	30,598	66,829	107,961	4,561	232,607	470,312	237,771	37,986	148,201	242,077		
	1965	2,262	32,702	70,964	120,506	5,248	257,614	525,213	267,927	40,374	164,112	272,100		
Paper and allied industries.....	1964	605	81,397	179,309	418,590	144,998	1,274,800	2,707,345	1,296,089	106,309	588,358	1,313,675		
	1965	601	83,994	184,072	450,434	158,338	1,385,512	2,881,996	1,347,426	110,180	634,425	1,364,618		
Printing, publishing and allied industries.....	1964	3,439	43,132	88,980	213,007	7,159	315,504	983,921	665,065	75,448	385,687	676,013		
	1965	3,465	44,746	91,861	230,592	7,560	346,677	1,085,229	734,730	78,737	422,225	748,200		
Primary metal industries.....	1964	398	77,770	167,820	427,710	106,304	1,312,594	2,546,923	1,136,495	100,407	588,358	1,163,390		
	1965	401	83,443	178,964	478,482	119,893	1,436,349	2,854,069	1,332,922	107,504	651,267	1,365,613		

Metal fabricating industries (except machinery and transportation equipment industries).....	1964 1965	3,455 3,581	89,873 99,839	193,080 214,375	413,120 478,655	24,479 27,457	1,071,812 1,246,332	2,137,178 2,466,811	1,053,596 1,228,592	121,021 133,992	602,707 691,525	1,101,784 1,295,719
Machinery industries (except electrical machinery).....	1964 1965	650 684	38,275 43,007	82,372 93,628	189,959 224,124	8,441 9,286	542,735 648,831	1,077,662 1,235,388	540,502 632,101	63,912 70,683	346,553 399,342	691,004 802,204
Transportation equipment industries.....	1964 1965	744 770	90,123 99,705	196,269 219,367	483,049 576,180	22,336 26,081	2,002,734 2,416,857	3,197,689 3,864,971	1,218,498 1,455,911	123,767 135,481	708,833 830,251	1,297,404 1,606,153
Electrical products industries.....	1964 1965	578 595	64,079 69,923	136,379 147,687	277,019 312,667	13,918 14,939	835,388 969,754	1,703,964 1,902,539	874,056 992,655	105,414 113,463	597,084 584,065	959,657 1,060,757
Non-metallic mineral products industries.....	1964 1965	1,336 1,351	35,598 38,246	79,761 85,863	164,303 188,351	55,685 62,425	350,358 403,493	918,237 1,037,982	512,631 580,154	48,501 51,218	240,129 263,819	537,333 604,089
Petroleum and coal products industries.....	1964 1965	89 90	7,188 6,825	15,623 14,513	44,784 43,387	12,579 12,570	1,114,000 1,155,311	1,418,528 1,430,572	286,722 265,288	15,009 14,350	102,598 102,825	289,568 269,854
Chemical and chemical products industries.....	1964 1965	1,140 1,118	33,555 35,037	72,168 75,122	160,879 173,360	63,677 69,941	707,816 888,211	1,798,065 1,973,320	949,649 1,035,483	67,433 70,975	377,408 412,402	1,019,544 1,109,232
Miscellaneous manufacturing industries.....	1964 1965	2,664 2,722	43,000 44,637	91,361 95,190	154,515 167,486	7,661 8,664	357,043 394,106	795,993 888,672	439,560 478,572	59,579 62,624	255,453 280,194	487,578 528,759
Totals.....	1964 1965	23,630 23,810	1,057,502 1,115,892	2,265,188 2,381,002	4,513,633 5,012,345	615,108 675,641	16,928,476 18,622,213	30,856,099 33,889,425	13,535,991 14,927,764	1,491,257 1,570,299	7,080,939 7,822,925	14,247,184 15,785,311

13.—Summary Statistics of the Forty Leading Industries, 1965

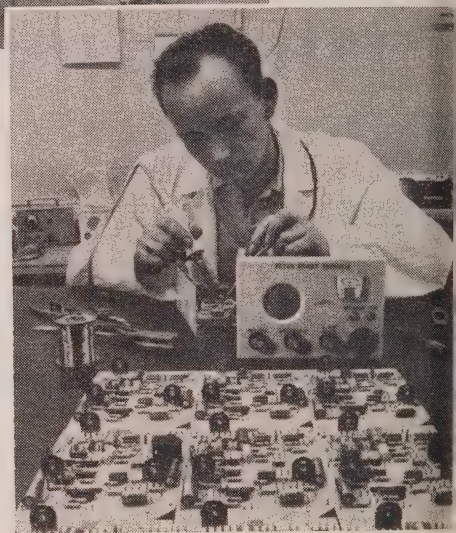
(Ranked according to value of shipments of goods of own manufacture)

Rank	Industry	Estab-lish-ments	MANUFACTURING ACTIVITY										TOTAL ACTIVITY		
			Production and Related Workers			Cost of Fuel and Elec-tricity	Cost of Materials and Supplies Used	Value of Ship-ments of Goods of Own Manu-facture	Value Added	Total Employees		Total Value Added			
			Number	Man-Hours Paid	Wages					Number	Salaries and Wages				
		No.	'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000				
1	Motor vehicle manufacturers.....	20	30,014	69,138	207,176	8,126	1,505,949	2,120,302	631,390	42,432	302,518	732,775			
2	Pulp and paper mills.....	132	58,074	128,006	339,363	151,237	924,406	2,104,425	1,033,532	69,897	423,732	1,042,399			
3	Petroleum refining.....	40	6,282	13,335	40,617	11,946	1,129,759	1,383,649	244,108	8,976	63,272	249,233			
4	Slaughtering and meat packing plants..	285	19,659	41,992	96,286	7,570	1,117,710	1,352,420	232,978	26,923	137,591	246,034			
5	Iron and steel mills.....	41	36,434	77,202	221,232	47,703	565,741	1,231,765	646,100	44,274	277,126	653,743			
6	Dairy factories.....	1,413	13,580	29,866	53,543	19,663	721,735	990,172	250,596	31,866	137,681	270,967			
7	Sawmills and planing mills.....	2,559	44,477	95,489	188,346	20,159	501,559	896,240	384,484	50,848	223,921	389,127			
8	Miscellaneous machinery and equipment manufacturers.....	528	28,361	62,535	147,115	5,907	415,090	797,150	419,738	43,956	242,334	466,827			
9	Smelting and refining.....	23	24,382	52,190	139,120	57,950	305,468	770,690	407,272	31,835	192,668	427,651			
10	Motor vehicle parts and accessories manufacturers.....	160	25,748	57,268	149,217	8,796	418,779	755,608	325,641	31,982	197,403	333,367			
11	Manufacturers of industrial chemicals...	134	11,978	25,873	70,634	54,539	281,040	685,437	358,205	18,899	118,259	379,986			
12	Metal stamping, pressing and coating industry.....	653	21,678	46,101	101,155	6,478	334,895	609,052	275,049	27,925	141,543	286,975			
13	Miscellaneous food manufacturers.....	272	8,178	17,434	33,074	6,006	342,149	565,169	219,233	13,253	64,175	227,809			
14	Commercial printing.....	1,993	24,971	51,861	120,051	3,486	191,279	488,278	296,433	35,264	185,802	303,390			
15	Publishing and printing.....	709	15,387	30,869	85,250	3,510	106,851	446,885	336,033	33,154	179,551	336,629			
16	Bakeries.....	2,465	17,771	38,865	66,497	12,125	206,265	444,048	225,904	33,082	133,225	235,765			
17	Fruit and vegetable canners and pre-servers.....	313	14,934	30,900	47,280	5,614	266,750	435,753	176,100	19,645	73,835	182,695			
18	Communications equipment manufac-turers.....	148	21,706	45,973	94,767	2,226	174,233	430,535	275,670	33,481	172,255	295,304			



A Canadian-designed DC8-61 flight simulator nearing completion in a Montreal plant; these training devices, incorporating a most advanced motion system, are being used by or built for Canadian and seven other large international airlines and for military training purposes by ten western nations.

A fetal heart monitor being assembled in a Winnipeg applied research plant, one of the complex electronic medical devices recently developed.



New products changes in technology contribute to expansion and sophistication of the manufacturing broad range of individual industries

Subsection 2.—Distribution of Manufacturing by Province and by Metropolitan Area

Distribution by Province

Ontario and Quebec together accounted for 81.6 p.c. of the value added by manufacture in Canada in 1965—Ontario for 52.8 p.c. and Quebec for 28.8 p.c. British Columbia was responsible for 8.4 p.c., the Prairie Provinces for 6.6 p.c., and the Atlantic Provinces for 3.4 p.c. In Ontario, value added by manufacture averaged \$1,161 per capita of the population, in Quebec \$757, in British Columbia \$694, in the Prairie Provinces \$291 and in the Atlantic Provinces \$261; these averages compare with a national average of \$760.

NOTE.—Based on the revised standard industrial classification and new establishment and total activity concepts.

Province or Territory and Year	Estab-lish-ments	MANUFACTURING ACTIVITY						TOTAL ACTIVITY			
		Production and Related Workers			Cost of Fuel and Elec-tricity	Cost of Materials and Supplies Used	Value of Ship-ments of Goods and of Own Manu-facture	Total Employees		Total Value Added	
		Number	Man-Hours Paid	Wages				Number	Salaries and Wages		
					No.	'000	\$'000			\$'000	\$'000	$'000
Newfoundland.....	1964	7,921	17,046	28,882	8,304	78,346	165,801	9,935	39,867	82,770	
	1965	8,577	18,514	31,724	8,701	84,490	174,532	10,463	42,516	86,543	
Prince Edward Island.....	1964	1,617	3,433	4,353	720	28,616	40,662	2,113	6,290	12,414	
	1965	1,629	3,374	4,397	757	30,045	43,076	2,197	6,617	13,885	
Nova Scotia.....	1964	23,167	51,165	84,581	12,501	303,146	523,738	30,183	117,654	218,292	
	1965	24,763	52,870	91,076	13,728	328,887	563,155	32,100	127,558	231,510	
New Brunswick.....	1964	18,481	40,145	64,794	17,696	288,433	494,361	24,552	93,016	198,030	
	1965	18,793	40,916	69,321	21,370	299,293	512,705	25,731	99,771	205,534	
Quebec.....	1964	342,907	742,774	1,318,999	185,318	4,702,130	8,773,944	479,518	2,117,086	4,125,329	
	1965	356,780	770,167	1,433,816	199,392	5,083,140	9,492,182	499,177	2,298,750	4,516,700	
Ontario.....	1964	509,758	1,092,937	2,320,944	283,965	8,627,975	15,842,949	728,936	3,666,810	7,489,116	
	1965	543,501	1,163,850	2,615,719	314,290	9,668,876	17,675,865	774,428	4,100,212	8,421,721	
Manitoba.....	1964	31,506	65,765	116,586	16,616	506,648	861,356	44,350	184,809	357,272	
	1965	32,531	68,612	126,036	18,639	541,931	913,357	46,368	199,059	380,446	
Saskatchewan.....	1964	9,135	19,345	38,566	8,650	245,543	381,781	14,247	64,273	136,137	
	1965	9,491	19,665	41,074	9,255	275,818	421,452	14,960	69,840	146,543	
Alberta.....	1964	29,225	61,631	123,694	21,007	737,940	1,193,780	43,517	200,062	454,935	
	1965	30,254	64,914	135,689	22,458	797,031	1,283,301	45,455	217,634	500,621	
British Columbia.....	1964	83,676	170,696	411,681	60,275	1,401,893	2,573,832	113,250	590,306	1,170,556	
	1965	88,953	180,889	462,894	66,965	1,515,454	2,806,165	119,836	660,100	1,280,168	
Yukon and Northwest Territories.....	1964	13	109	554	56	2,749	3,893	156	766	2,333	
	1965	15	232	598	86	2,245	3,637	162	869	1,641	
Canada.....	1964	1,057,502	2,265,188	4,513,633	615,108	16,998,476	30,856,099	1,491,257	7,089,939	14,247,181	
	1965	1,115,892	2,384,602	5,012,345	675,641	18,622,213	34,889,435	1,570,290	7,822,925	15,783,311	

[illegible]

For footnotes, see end of table, p. 712.

15.—Summary Statistics of Manufactures, by Province and Industry Group, 1965—continued

Province and Industry Group	Estab-lish-ments	MANUFACTURING ACTIVITY						TOTAL ACTIVITY		
		Production and Related Workers			Cost of Fuel and Electricity	Cost of Materials and Supplies Used	Value of Shipments of Goods and of Own Manufacture	Value Added	Total Employees	
		Number	Man-Hours Paid	Wages					Number	Salaries and Wages
	No.		'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
New Brunswick—concluded										
Paper and allied industries.....	19	4,255	9,489	23,477	13,770	77,036	148,321	57,426	5,166	29,517
Printing, publishing and allied industries.....	47	596	1,260	2,363	127	2,457	9,817	7,289	994	4,211
Primary metal industries.....	3	44	91	117	12	99	310	199	51	153
Metal fabricating industries (except machinery and transportation equipment industries).....	36	998	2,126	4,217	285	9,944	20,402	10,421	1,330	5,913
Machinery industries (except electrical machinery).....	2	1	1	1	1	1	1	1	1	1
Transportation equipment industries.....	15	1	1	1	1	1	1	1	1	1
Electrical products industries.....	5	663	1,380	2,304	206	6,617	13,241	5,790	940	3,664
Non-metallic mineral products industries.....	34	533	1,181	2,228	1,042	3,801	11,730	6,977	700	3,119
Petroleum and coal products industries.....	1	1	1	1	1	1	1	1	1	1
Chemical and allied products industries.....	13	166	363	757	715	5,992	11,404	4,349	269	1,357
Miscellaneous manufacturing industries.....	39	405	838	1,339	86	2,970	6,753	3,558	558	2,111
Total industry groups for which data cannot be published.....	...	1,857	3,797	7,113	706	50,253	70,448	18,307	2,649	11,320
Totals, New Brunswick.	704	18,783	40,916	69,321	21,370	294,293	512,705	196,237	25,153	99,771
Quebec										
Food and beverage industries.....	2,187	34,943	76,015	130,503	22,674	1,094,284	1,708,628	597,212	58,118	251,215
Tobacco products industries.....	20	5,480	10,910	25,763	739	104,005	206,628	100,977	6,869	34,918
Rubber industries.....	32	5,297	11,205	19,636	1,461	45,031	96,169	50,008	7,365	34,918
Leather industries.....	988	13,917	28,233	40,222	896	77,350	158,598	80,815	16,172	31,334
Textile industries.....	438	35,735	78,125	125,135	10,956	409,312	731,950	317,738	45,700	32,490
Textile mills.....	214	11,292	24,763	32,475	1,170	103,629	177,674	74,450	12,882	41,697
Knitting mills.....	1,552	53,755	105,970	150,572	2,181	376,607	685,287	311,610	62,780	201,807
Clothing industries.....	1,347	17,810	41,749	56,681	5,479	139,810	285,444	122,008	20,656	71,743
Wood industries.....	1,757	13,019	28,711	44,957	2,075	95,796	195,124	98,807	15,867	60,731
Furniture and fixture industries.....	757	30,870	69,201	163,663	62,484	485,444	1,019,132	474,677	40,483	229,398
Paper and allied industries.....	207	12,835	26,334	64,528	1,901	103,972	309,644	204,262	21,796	114,846
Printing, publishing and allied industries.....	1,009	10,140	35,644	89,570	32,006	411,079	746,204	310,510	23,409	139,555
Primary metal industries.....	1,105	25,751	56,376	119,651	6,319	311,072	616,961	306,241	34,581	174,605
Metal fabricating industries (except machinery and transportation equipment industries).....	895	...	...	...	...	...	...	...	...	...
Totals, Quebec.	895	25,751	56,376	119,651	6,319	311,072	616,961	306,241	34,581	174,605
Totals, New Brunswick.	704	18,783	40,916	69,321	21,370	294,293	512,705	196,237	25,153	99,771
Totals, Quebec.	895	25,751	56,376	119,651	6,319	311,072	616,961	306,241	34,581	174,605

Machinery industries (except electrical machinery)²

Transportation equipment industries.....	109	7,672	36,707	1,493	96,204	191,121	109,650	12,329	63,976	124,196
Electrical products industries.....	127	16,872	37,516	4,024	220,876	443,260	226,704	24,336	142,254	308,408
Non-metallic mineral products industries.....	137	17,719	87,633	3,826	284,072	482,995	273,588	32,338	174,125	338,558
Petroleum and coal products industries.....	396	11,702	27,117	19,183	115,307	305,322	173,558	5,692	80,729	180,819
Petroleum and chemical products industries.....	17	1,769	3,870	2,561	311,921	384,683	273,007	2,393	20,798	69,072
Miscellaneous manufacturing industries.....	323	8,756	18,571	14,416	205,578	488,976	273,034	21,909	129,352	295,826
Total, industries excluded from published industry group totals.....	775	12,566	27,520	43,248	100,133	224,405	124,836	16,974	70,278	130,428
...	...	2,880	5,842	12,297	21,637	54,677	32,900	5,327	27,987	35,169
Totals, Quebec.....	10,952⁴	356,780	770,167	1,433,816	5,083,140	9,492,182	4,305,379	499,176	2,298,746	4,516,700
Ontario										
Food and beverage industries.....	2,460	52,830	113,849	37,506	1,706,585	2,701,290	978,656	88,994	420,270	1,017,973
Tobacco products industries.....	18	2,472	4,739	9,666	113,007	173,144	57,399	3,147	14,552	57,927
Rubber industries.....	50	12,470	26,716	64,110	108,888	360,083	188,545	17,657	96,579	199,017
Leather industries.....	205	12,700	26,102	40,557	86,743	166,266	78,178	14,711	52,127	79,189
Textile industries.....	379	22,145	46,833	83,439	271,567	494,264	219,501	27,698	118,100	223,176
Knitting mills.....	125	7,052	16,498	23,270	968	59,795	111,116	9,260	31,141	50,892
Clothing industries.....	523	20,237	42,493	92,123	907	130,910	258,429	23,877	84,309	129,379
Furniture and fixture industries.....	817	14,584	32,555	4,346	119,576	239,231	117,918	17,671	70,023	122,162
Paper and allied industries.....	922	13,134	32,696	85,443	2,409	123,349	254,339	131,407	18,861	80,361
Printing, publishing and allied industries.....	265	31,793	69,244	162,721	43,441	496,224	997,993	461,429	232,973	470,322
Primary metal industries.....	1,470	22,476	46,080	120,366	3,876	186,978	571,463	383,420	227,156	393,671
Metal fabricating industries (except machinery and transportation equipment industries).....	204	55,821	113,871	306,996	68,902	810,218	1,081,288	827,401	66,323	839,578
Machinery industries (except electrical machinery).....	1,826	57,244	123,036	279,313	736,095	1,460,219	729,112	76,651	403,299	706,008
Transportation equipment industries.....	415	30,064	65,170	182,965	16,793	480,765	456,737	47,922	278,093	607,559
Electrical products industries.....	318	69,160	153,000	425,137	6,571	2,066,177	1,102,733	92,325	597,916	1,238,080
Non-metallic mineral products industries.....	379	48,542	102,067	218,126	19,410	3,165,519	1,669,365	75,498	384,968	706,014
Petroleum and coal products industries.....	523	18,969	41,333	83,647	10,230	1,322,513	669,365	24,701	132,888	286,363
Chemical and chemical products industries.....	25	2,169	4,592	13,821	30,203	196,837	497,375	88,581	52,179	88,023
Miscellaneous manufacturing industries.....	564	19,440	42,242	98,431	3,740	417,906	507,674	6,887	222,606	637,377
Total, industries excluded from published industry group totals.....	1,248	28,191	59,494	109,343	43,266	545,936	1,177,773	37,795	185,738	332,418
...	...	1,567	3,306	7,077	1,299	15,238	22,910	1,981	9,773	23,890
Totals, Ontario.....	12,766⁴	543,501	1,163,847	2,615,719	9,668,876	17,675,864	7,881,815	774,498	4,100,212	8,421,760
Manitoba										
Food and beverage industries.....	380	7,090	14,727	28,638	4,773	352,003	98,323	11,680	51,127	104,782
Rubber industries.....	2	689	1,417	1,965	61	9,784	4,070	700	2,424	4,087
Textile industries.....	16	509	1,057	1,370	95	11,036	3,747	1,637	2,017	3,908
Knitting mills.....	5	5,699	11,774	14,700	234	67,081	28,939	6,379	18,254	29,075
Clothing industries.....	129	5,699	11,774	14,700	234	67,081	28,939	6,379	18,254	29,075

For footnotes, see end of table, p. 712.

15.—Summary Statistics of Manufactures, by Province and Industry Group, 1965—continued

Province and Industry Group	Estab-lish-ments	MANUFACTURING ACTIVITY						TOTAL ACTIVITY		
		Production and Related Workers			Cost of Fuel and Electricity	Cost of Materials and Supplies Used	Value of Shipments of Goods of Own Manufacture	Total Employees		Total Value Added
		Number	Man-Hours Paid	Wages				Number	Salaries and Wages	
	No.		'000	\$'000	\$'000	\$'000	\$'000		\$'000	\$'000
Manitoba—concluded										
Wood industries.....	117	946	2,174	3,103	330	6,864	14,409	1,150	4,130	7,680
Furniture and fixture industries.....	123	1,580	3,383	5,534	264	14,241	25,599	1,981	7,418	11,941
Paper and allied industries.....	124	1,860	2,867	5,958	2,008	23,408	49,621	1,761	8,278	24,574
Printing, publishing and allied industries.....	194	2,290	4,723	10,214	384	15,230	47,617	3,950	18,038	32,382
Primary metal industries.....	15	2,198	4,808	12,233	5,490	17,045	48,747	2,648	15,478	26,742
Metal fabricating industries (except machinery and transportation equipment industries).....	131	3,153	6,641	13,927	739	35,319	68,635	4,276	20,393	37,560
Machinery industries (except electrical machinery) ²	33	1,654	3,498	6,603	277	24,037	42,092	2,416	11,293	20,475
Transportation equipment industries.....	30	1,723	3,832	6,853	484	15,966	32,278	2,718	12,370	16,894
Electrical products industries.....	18	1,796	1,712	2,837	208	11,102	20,339	1,362	5,778	10,312
Non-metallic mineral products industries.....	55	1,025	2,146	4,720	2,198	10,555	31,241	1,515	7,472	19,409
Petroleum and coal products industries ²	4	280	588	1,749	582	46,788	55,292	1,412	2,818	8,932
Chemical and chemical products industries.....	34	355	746	1,381	229	42,762	22,036	835	3,963	10,485
Miscellaneous manufacturing industries.....	102	899	1,925	3,325	210	4,123	11,051	1,258	5,374	9,089
Total industry groups for which data cannot be published and industries excluded from published industry group totals.....	...	285	595	890	71	2,542	4,575	600	2,435	2,150
Totals, Manitoba.....	1,457⁴	32,531	68,613	126,036	18,639	541,931	913,357	46,368	199,059	389,446
Saskatchewan										
Food and beverage industries.....	253	3,470	7,358	15,245	2,743	140,670	200,629	6,056	27,625	61,272
Textile industries.....	8	64	131	186	6	689	1,080	89	285	460
Clothing industries.....	5	243	491	679	23	2,031	4,083	316	1,227	1,902
Wood industries.....	112	904	1,777	2,991	406	6,933	13,334	1,198	4,269	7,276
Furniture and fixture industries.....	37	60	121	184	16	491	1,045	77	240	551
Paper and allied industries.....	6	170	348	674	160	2,037	3,810	206	882	1,672
Printing, publishing and allied industries.....	121	928	1,873	4,264	177	4,285	16,655	1,509	6,925	12,478
Primary metal industries.....	4	1	1	1	1	1	1	1	1	1
Metal fabricating industries (except machinery and transportation equipment industries) ²	64	860	1,727	3,484	179	11,109	20,042	1,200	5,312	10,007
Machinery industries (except electrical machinery).....	20	268	565	1,056	68	2,723	6,190	543	2,785	3,991

	6	32	63	130	7	463	784	327	185	1,177	333
Transportation equipment industries.....	4	142	294	628	59	4,928	7,354	2,300	196	791	2,333
Electrical products industries.....	43	639	1,414	2,930	1,267	10,352	23,512	11,947	850	4,007	12,628
Non-metallic mineral products industries.....	10	596	1,147	3,239	848	65,840	84,726	18,133	1,007	6,319	18,179
Petroleum and coal products industries.....	12	110	1,237	550	320	5,720	6,617	1,305	217	1,166	2,200
Chemical and allied products industries.....	48	1	1	1	1	1	1	1	1	1	1
Miscellaneous manufacturing industries.....											
Total industry groups for which data cannot be published and industries excluded from published industry group totals.....	...	1,005	2,119	4,935	2,975	17,544	31,561	11,133	1,311	6,830	11,272
Totals, Saskatchewan.....	754	9,491	19,665	41,074	9,255	275,818	421,452	138,692	14,960	69,840	146,543
Alberta											
Food and beverage industries.....	471	8,030	16,669	34,729	4,861	385,328	512,667	123,562	13,367	61,583	131,032
Rubber industries.....	5	1	1	1	1	1	1	1	1	1	1
Leather industries.....	7	1	1	1	1	1	1	1	1	1	1
Textile industries.....	21	363	835	1,638	154	6,377	10,413	3,971	513	2,438	4,011
Knitting mills.....	4	38	79	90	1	272	471	228	45	136	226
Clothing industries.....	21	1,911	3,744	4,665	60	12,244	22,723	11,148	2,142	6,642	11,201
Wood industries.....	266	3,434	7,506	12,329	1,535	29,702	58,321	26,432	4,145	15,961	27,087
Furniture and fixture industries.....	105	742	1,598	2,788	131	6,053	12,382	6,276	905	3,740	6,487
Paper and allied industries.....	20	892	1,948	4,614	1,622	25,009	47,427	21,009	2,255	6,973	91,750
Printing, publishing and allied industries.....	211	1,740	3,647	8,482	313	10,881	39,689	28,558	2,968	14,369	28,640
Primary metal industries.....	21	1,574	3,394	8,884	2,012	57,638	87,859	30,947	2,237	13,588	31,282
Metal fabricating industries (except machinery and transportation equipment industries).....	191	4,043	8,333	18,899	831	53,331	101,738	48,879	5,523	27,164	57,058
Machinery industries (except electrical machinery).....	35	621	1,287	2,723	236	9,956	20,025	10,609	1,486	8,077	12,313
Transportation equipment industries.....	46	1,167	2,453	4,815	174	9,712	20,474	11,096	1,785	8,139	11,698
Electrical products industries.....	11	296	598	1,004	84	6,302	11,300	4,908	1,957	1,957	4,922
Non-metallic mineral products industries.....	118	2,630	5,671	12,267	3,162	30,133	80,149	47,039	3,363	16,745	47,830
Petroleum and coal products industries.....	12	731	1,591	4,783	2,056	108,727	136,954	31,039	1,040	37,125	31,125
Chemical and allied products industries.....	36	1,365	3,001	8,091	4,814	36,010	91,278	53,852	2,376	14,549	56,256
Miscellaneous manufacturing industries.....	165	749	1,568	2,728	163	4,970	11,901	6,995	1,115	4,579	9,107
Total, industry groups for which data cannot be published and industries excluded from published industry group totals.....	...	438	992	2,160	190	9,487	18,330	8,637	749	3,901	8,639
Totals, Alberta.....	1,774	30,764	64,914	135,639	22,459	797,032	1,283,301	475,342	45,455	217,633	500,623
British Columbia											
Food and beverage industries.....	653	9,998	19,664	44,161	6,514	320,318	503,652	176,462	17,291	83,048	184,447
Rubber industries.....	7	1	1	1	1	1	1	1	1	1	1
Leather industries.....	17	282	496	769	31	1,442	3,255	1,728	299	1,046	1,887
Textile industries.....	47	1,709	1,427	2,315	149	6,570	12,090	5,583	895	3,552	5,751
Knitting mills.....	6	1	1	1	1	1	1	1	1	1	1
Clothing industries.....	53	1,733	3,435	5,241	98	9,675	19,804	10,295	1,979	6,836	10,369
Wood industries.....	927	35,404	71,398	179,446	15,391	477,408	823,571	340,136	40,426	214,253	342,085
Furniture and fixture industries.....	246	1,810	3,713	7,635	297	15,757	32,776	16,953	2,257	10,391	17,472

For footnotes, see end of table, p. 712.

15.—Summary Statistics of Manufactures, by Province and Industry Group, 1965—concluded

Province and Industry Group	MANUFACTURING ACTIVITY										TOTAL ACTIVITY	
	Estab-lish-ments	Production and Related Workers			Cost of Fuel and Elec-tricity	Cost of Materials and Supplies Used	Value of Ship-ments of Goods and of Own Manu-facture	Value Added	Total Employees		Total Value Added	
		Number	Man-Hours Paid	Wages					Number	Salaries and Wages		
	No.		'000	\$'000	\$'000	\$'000	\$'000	\$'000		\$'000	\$'000	
British Columbia—concluded												
Paper and allied industries.....	47	10,447	21,636	66,131	25,477	223,429	493,734	247,329	14,176	96,509	248,255	
Printing, publishing and allied industries.....	307	2,715	5,467	15,742	510	18,503	69,475	50,551	5,058	28,366	50,838	
Primary metal industries.....	41	5,915	12,621	33,007	5,879	87,003	193,425	100,666	7,941	49,542	102,700	
Metal fabricating industries (except machinery and transportation equipment industries) ¹	369	6,075	12,365	31,927	1,508	71,624	145,798	74,840	8,174	45,107	79,555	
Machinery industries (except electrical machinery) ²	57	1,974	4,014	11,086	482	29,837	53,107	25,276	3,293	19,572	26,236	
Transportation equipment industries.....	140	4,765	9,764	27,651	730	51,220	106,307	55,588	6,144	36,473	57,619	
Electrical products industries.....	37	969	1,937	4,307	202	18,183	35,555	18,075	1,890	9,919	18,206	
Non-metallic mineral products industries.....	129	1,868	4,115	10,509	3,345	24,864	57,204	30,014	2,667	15,366	31,844	
Petroleum and coal products industries ²	8	633	1,254	3,849	1,475	101,786	125,742	22,018	1,121	7,710	23,540	
Chemical and chemical products industries.....	104	1,731	3,572	9,165	4,317	44,623	98,137	51,149	3,254	18,279	54,356	
Miscellaneous manufacturing industries.....	296	1,404	2,896	6,036	343	8,120	22,414	14,361	2,632	9,944	20,001	
Total, industry groups for which data cannot be published and industries excluded from published industry group totals.....	...	551	1,116	1,896	157	5,111	10,028	4,942	939	4,185	5,005	
Totals, British Columbia	3,502⁴	88,853	180,890	462,893	66,965	1,515,453	2,806,164	1,246,866	119,836	660,098	1,289,166	
Yukon and Northwest Territories												
Food and beverage industries.....	3	4	8	14	9	86	203	108	13	54	128	
Wood industries ²	5	38	71	131	39	146	538	362	50	199	329	
Printing, publishing and allied industries.....	3	1	1	1	1	1	1	1	1	1	1	
Non-metallic mineral products industries.....	1	1	1	1	1	1	1	1	1	1	1	
Petroleum and coal products industries.....	1	1	1	1	1	1	1	1	1	1	1	
Total, industry groups for which data cannot be published and industries excluded from published industry group totals.....	...	68	154	454	38	2,018	2,896	880	99	615	1,183	
Totals, Yukon and Northwest Territories	15⁴	110	232	593	86	2,219	3,617	1,351	162	869	1,641	

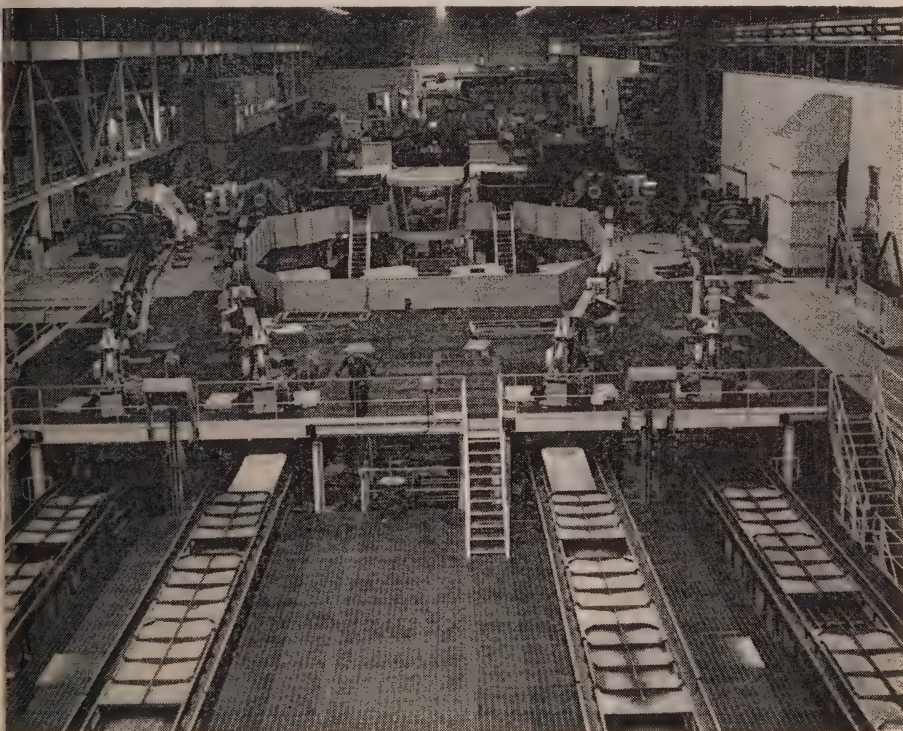
¹ Confidential.² Excludes an industry or industries data for which cannot be published with industry group but which are included in the residual of unpublished data preceding all industry totals for the province; exclusions may affect comparability with data for previous years. For a list of industries involved, see DBS report *Manufactures of Canada, Section A: Summary for Canada, 1965* (Catalogue No. 31-203).⁴ Total includes exclusions referred to in footnote 2.

Distribution by Metropolitan Area

The 16 census metropolitan areas* for which manufacturing statistics are given in Table 16 accounted in 1965 for manufacturing value added of \$8,819,516,000 and shipments of goods of own manufacture of \$19,687,537,000; the former was 59.1 p.c. and the latter 58.1 p.c. of the respective totals for all Canadian manufacturing industries. The proportions of total employees and of salaries and wages accounted for by these metropolitan areas were slightly lower. They had 898,739 employees, including those in non-manufacturing activity, which was 57.2 p.c. of the total for Canada, and they paid total salaries and wages of \$4,483,948,000 to these employees, or 57.3 p.c. of the total.

Approximately one half (51.1 p.c.) of all value added by manufacture in Canada was accounted for by the seven largest metropolitan areas, as ranked by the value of their shipments of goods of own manufacture. In descending order these were: Toronto, Montreal, Hamilton, Vancouver, Windsor, Winnipeg and Kitchener. These areas accounted for 50.0 p.c. of the shipments of goods of own manufacture, 49.7 p.c. of the total employees and 50.1 p.c. of total salaries and wages paid by Canada's manufacturing industries.

* As defined for the 1961 Census of Population; see DBS publication 1961 *Census of Canada—Population: Incorporated Cities, Towns and Villages* (Catalogue No. 92-535). These areas are in some cases substantially larger than metropolitan areas defined for other purposes.



This large modern rod mill is part of the great steel manufacturing complex at Hamilton, Ont., the major industry of that highly industrialized city. The mill is capable of converting steel billets into rods at speeds of up to 8,500 feet a minute. On the moving tables in the foreground, rod is cooled at a controllable uniform rate, resulting in improved quality and yield.

16.—Summary Statistics of Manufactures, by Census Metropolitan Area, 1964 and 1965

Census Metropolitan Area and Year	Estab-lish-ments	MANUFACTURING ACTIVITY							TOTAL ACTIVITY		
		Production and Related Workers			Cost of Fuel and Elec-tricity	Cost of Materials and Supplies Used	Value of Shipments of Goods of Own Manu-facture	Value Added	Total Employees		Total Value Added
		Number	Man-Hours Paid	Wages					Number	Salaries and Wages	
					No.	'000	\$'000	\$'000			
Calgary, Alta.....	1964 1965	439 458	15,199 16,532	32,719 37,267	4,232 4,679	218,714 231,964	337,460 367,068	117,019 133,047	11,103 11,985	52,977 59,531	121,725 138,869
Edmonton, Alta.....	1964 1965	533 535	27,470 29,273	56,451 62,067	9,235 9,940	320,304 354,777	525,969 578,967	197,180 220,413	18,541 19,778	88,326 96,506	208,730 233,872
Halifax, N.S.....	1964 1965	145 150	12,189 11,721	22,612 22,437	2,124 2,113	110,321 111,521	184,380 187,917	72,422 74,786	8,149 8,056	34,581 35,23	74,854 77,868
Hamilton, Ont.....	1964 1965	704 702	106,065 112,370	254,210 282,909	35,362 39,572	790,024 883,250	1,601,648 1,775,907	779,981 877,970	65,803 69,909	357,162 395,005	798,217 894,093
Kitchener, Ont.....	1964 1965	487 498	60,896 64,991	113,578 127,135	6,937 7,537	337,770 372,712	628,094 701,684	291,680 333,652	36,828 39,681	100,995 130,008	298,169 340,512
London, Ont.....	1964 1965	323 321	29,934 30,661	60,433 64,566	4,487 4,782	208,814 224,181	426,566 454,559	217,870 227,283	20,670 21,356	96,551 103,560	231,109 245,130
Montreal, Que.....	1964 1965	5,398 5,446	182,946 191,473	390,524 408,651	49,833 53,541	2,673,398 2,879,731	4,866,656 5,257,210	2,163,835 2,389,677	253,919 264,852	1,129,201 1,231,473	2,258,677 2,496,410
Ottawa, Ont.....	1964 1965	337 331	12,327 12,396	26,508 26,428	55,214 57,692	150,815 158,805	333,581 352,089	170,355 184,236	18,238 18,604	89,006 95,362	175,932 190,152
Quebec, Que.....	1964 1965	561 551	17,283 17,480	36,908 37,007	9,075 10,209	191,800 208,644	395,001 418,451	196,362 198,882	23,116 23,219	94,555 100,288	200,558 204,262
Saint John, N.B.....	1964 1965	102 106	4,855 5,016	10,723 11,087	3,879 6,021	139,899 128,863	213,376 207,157	68,499 71,860	6,505 6,772	28,689 30,308	70,911 74,495
St. John's, Nfld.....	1964 1965	76 74	1,656 3,591	5,188 5,469	679 675	16,218 17,215	34,080 36,795	16,985 19,144	2,311 2,359	8,179 8,499	17,892 19,980
Toronto, Ont.....	1964 1965	5,352 5,441	181,338 190,443	799,044 876,726	56,713 60,723	3,124,272 3,402,557	5,657,516 6,129,037	2,511,092 2,739,067	263,325 275,922	1,296,452 1,419,989	2,734,704 3,017,856
Vancouver, B.C.....	1964 1965	1,838 1,855	41,902 44,411	200,371 224,709	18,534 19,450	744,439 786,989	1,294,338 1,395,032	538,581 599,563	57,375 60,475	291,047 323,876	563,470 624,481
Victoria, B.C.....	1964 1965	222 218	4,395 9,936	22,078 26,340	1,158 1,344	61,829 66,001	110,238 125,093	49,550 57,757	5,925 6,371	30,155 34,742	51,757 59,561
Windsor, Ont.....	1964 1965	395 24,089	46,373 53,441	119,387 150,957	7,523 9,937	447,918 540,193	789,172 935,326	346,728 392,627	28,121 32,065	168,956 211,393	362,295 428,715
Winnipeg, Man.....	1964 1965	1,028 26,860	54,313 56,415	95,750 103,022	8,776 9,624	440,287 466,761	727,130 765,265	280,865 299,552	35,787 37,335	146,406 158,172	293,774 313,420

**Subsection 3.—Size of Manufacturing Establishments
Based on Employment and Shipments**

Size Based on Employment

About one half (51.9 p.c.) of all persons employed in Canada's manufacturing industries in 1965 worked in establishments employing 200 or more persons and about one fifth (19.7 p.c.) worked in establishments employing 1,000 or more. There were 142 establishments employing 1,000 or more in 1965 compared with 127 in 1964 and 108 in 1961.

**17.—Establishments and Employment in the Manufacturing Industries, by Number
Employed per Establishment, 1949, 1955, 1961 and 1965**

Size Group ¹	Estab- lishments	Em- ployees	Working Owners and Partners	Pro- portion of Total Em- ployment ²	Estab- lishments	Em- ployees	Working Owners and Partners	Pro- portion of Total Em- ployment ²
	1949				1955 ²			
	No.	No.		p.c.	No.	No.		p.c.
Under 5 employed.....	16,647	34,865		3.0	17,602	36,340		2.8
5 to 14 ".....	9,123	75,482		6.4	9,864	81,471		6.3
15 to 49 ".....	5,967	159,012		13.6	6,340	169,575		13.1
50 to 99 ".....	1,905	132,069		11.3	2,082	144,411		11.1
100 to 199 ".....	1,114	156,084		13.3	1,175	163,091		12.6
200 to 499 ".....	694	213,130		18.2	739	227,667		17.5
500 to 999 ".....					243	167,720		12.9
1,000 to 1,499 ".....	332	391,455		33.4	76	91,840		7.1
1,500 or more ".....					61	200,413		15.4
Head offices.....	—	9,110		0.8	—	15,933		1.2
Totals.....	35,792	1,171,207		100.0	38,182	1,298,461		100.0
	1961				1965			
	No.	No.	No.	p.c.	No.	No.	No.	p.c.
Under 5 employed.....	12,352	16,846	10,675	2.0	11,387	15,931	9,860	1.6
5 to 14 ".....	9,134	71,207	5,150	5.6	9,173	73,034	4,003	4.9
15 to 49 ".....	6,829	184,550	1,055	13.6	7,138	194,898	662	12.3
50 to 99 ".....	2,445	169,319	88	12.4	2,592	180,562	70	11.4
100 to 199 ".....	1,377	190,540	17	13.9	1,573	219,288	20	13.8
200 to 499 ".....	869	261,628	4	19.1	1,009	305,697	5	19.3
500 to 999 ".....	243	169,392	—	12.3	296	204,030	—	12.9
1,000 to 1,499 ".....	55	68,743	—	5.0	78	96,320	—	6.1
1,500 or more ".....	53	165,577	—	12.1	64	215,181	—	13.6
Head offices ³	—	54,733	—	4.0	—	65,358	—	4.1
Totals.....	33,357	1,352,535	16,989	100.0	33,310	1,570,299	14,620	100.0

¹ Includes working owners and partners. ² Newfoundland included from 1955.
with years prior to 1961 when coverage of head offices was incomplete.

³ Not comparable

18.—Establishments in the Manufacturing Industries classified by Number Employed and by Province, 1965

Province or Territory	Number Employed									Total
	Under 5	5 to 14	15 to 49	50 to 99	100 to 199	200 to 499	500 to 999	1,000 to 1,499	1,500 or Over	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	137	49	58	21	11	1	1	1	1	287 ²
Prince Edward Island....	81	37	27	5	4	1	1	1	1	155 ²
Nova Scotia.....	365	258	206	62	21	24	5	1	1	944 ²
New Brunswick.....	285	181	137	45	32	17	5	1	1	704 ²
Quebec.....	3,759	2,976	2,381	877	507	312	96	26	18	10,952 ²
Ontario.....	3,823	3,469	2,863	1,136	735	515	146	38	41	12,766
Manitoba.....	554	384	300	119	63	28	1	1	1	1,457 ⁴
Saskatchewan.....	306	248	139	31	22	1	1	1	1	754 ⁵
Alberta.....	688	578	320	92	61	24	1	1	1	1,774 ⁶
British Columbia and Yukon and Northwest Territories.....	1,389	993	707	204	117	73	24	7	3	3,517 ⁷
Canada.....	11,387	9,173	7,135	2,592	1,573	1,009	296	78	64	33,310

¹ Size groups combined.

² Newfoundland and Prince Edward Island have 12 establishments with over 200 employees.

³ Nova Scotia and New Brunswick have five establishments with over 1,000 employees.

⁴ Includes nine establishments with over 500 employees.

⁵ Includes eight establishments with over 200 employees.

⁶ Includes 11 establishments with over 500 employees.

⁷ Includes 15 establishments

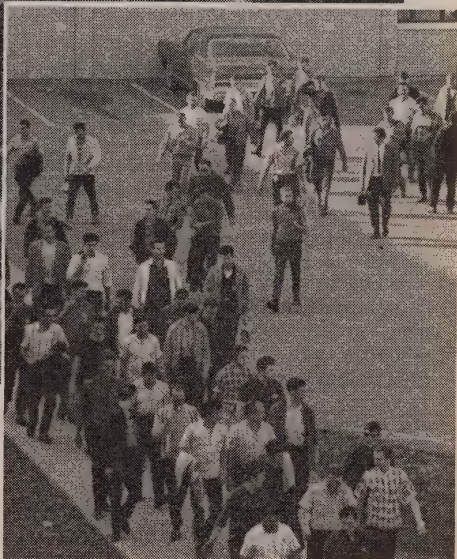
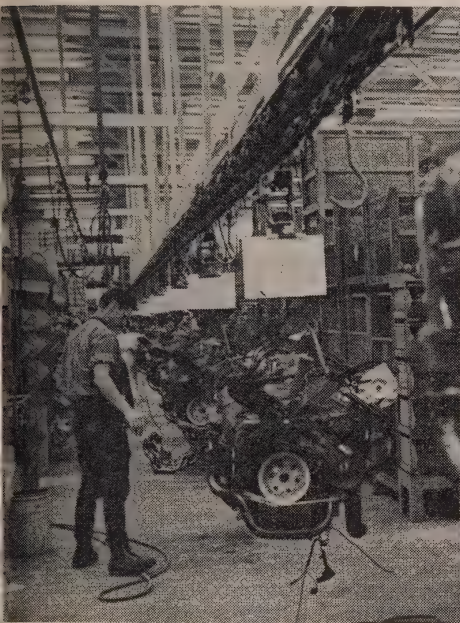
in Yukon and Northwest Territories.

19.—Percentage of Manufacturing Establishments Accounted for by Specified Employment Size Groups, 1965

Province or Region	Establishments with Total Employed of—						
	Under 5	5 to 14	15 to 49	50 to 99	100 to 199	200 or Over	All Size Groups
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Atlantic Provinces.....	41.5	25.1	20.5	6.4	3.3	3.2	100.0
Quebec.....	34.3	27.2	21.7	8.0	4.6	4.2	100.0
Ontario.....	29.9	27.2	22.4	8.9	5.8	5.8	100.0
Prairie Provinces.....	38.8	30.4	19.0	6.1	3.7	2.0	100.0
British Columbia and Yukon and Northwest Territories.....	39.5	28.2	20.1	5.8	3.3	3.1	100.0
Canada.....	34.2	27.5	21.5	7.8	4.7	4.3	100.0

Size Based on Shipments

The average size of a manufacturing establishment in terms of shipments of goods of own manufacture was slightly above \$1,000,000 in 1965, after having been below that mark in previous years. However, the many small establishments account for a limited percentage of all shipments. Establishments with shipments of \$1,000,000 or more contributed 85.6 p.c. of all shipments of goods of own manufacture from the manufacturing industries.



In 1965, for the first time, motor vehicle manufacturers led all other Canadian industries in value of shipments. The firms manufacturing vehicles and those manufacturing vehicle parts and accessories together employed nearly 75,000 persons and paid them well over \$1,000,000,000 in salaries and wages.

20.—Establishments and Shipments in the Manufacturing Industries, by Shipments per Establishment, 1961 and 1965

Value Group	Estab- lish- ments	Value of Shipments of Goods of Own Manufacture	Average per Estab- lish- ment	Pro- portion of Total Ship- ments	Estab- lish- ments	Value of Shipments of Goods of Own Manufacture	Average per Estab- lish- ment	Pro- portion of Total Ship- ments
	1961				1965			
	No.	\$'000	\$'000	p.c.	No.	\$'000	\$'000	p.c.
Under \$25,000.....	9,245	106,779	12	0.5	7,071	88,027	12	0.3
\$25,000 but under \$50,000..	4,677	168,079	36	0.7	4,396	158,922	36	0.5
50,000 " " 100,000..	4,562	328,307	72	1.4	4,636	331,363	71	1.0
100,000 " " 200,000..	4,260	610,675	143	2.6	4,250	610,278	144	1.8
200,000 " " 500,000..	4,555	1,462,027	321	6.2	5,212	1,665,823	320	4.9
500,000 " " 1,000,000	2,400	1,689,457	704	7.2	2,847	2,008,489	705	5.9
1,000,000 " " 5,000,000	2,875	6,123,965	2,130	26.1	3,687	7,910,388	2,145	23.3
5,000,000 or over.....	783	12,949,667	16,539	55.3	1,211	21,116,134	17,437	62.3
Totals and Averages....	33,357	23,438,956	703	100.0	33,310	33,889,425	1,017	100.0

21.—Establishments in the Manufacturing Industries classified by Value of Shipments of Goods of Own Manufacture and by Province, 1965

Province or Territory	Up to \$24,999	\$25,000 to \$99,999	\$100,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$4,999,999	\$5,000,000 or Over	Total
	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	123	47	60	23	43	17	287
Prince Edward Island.....	54	44	39	9			155
Nova Scotia.....	288	270	234	53	82	16	944
New Brunswick.....	218	186	158	60	66	16	704
Quebec.....	2,326	2,938	3,262	997	1,078	351	10,952
Ontario.....	2,248	3,259	3,743	1,175	1,726	615	12,766
Manitoba.....	355	389	399	118	168	28	1,457
Saskatchewan.....	200	246	192	44	55	17	754
Alberta.....	409	598	457	119	139	52	1,774
British Columbia and Yukon and Northwest Territories.....	850	1,055	918	249	334	111	3,517
Canada.....	7,071	9,032	9,462	2,847	3,687	1,211	33,310

Section 4.—Federal Assistance to Manufacturing

The federal Department of Industry was established in July 1963 to promote the growth, efficiency and improvement of manufacturing industries in Canada. The Department assists Canadian industries to adapt to technological changes and variations in domestic and export markets; it aids potentially sound industries to overcome problems of growth and development and promotes industrial research and design activity.

Program for the Advancement of Industrial Technology.—In 1965 the Department of Industry initiated a Program for the Advancement of Industrial Technology (PAIT) to stimulate industrial growth by the application of science and technology to the development of new or improved products and processes. The basic aim of the Program is to help industry up-grade its technology and expand its innovation activity by underwriting specific development projects that involve a significant advance in technology and which, if successful, offer good prospects for commercial exploitation. PAIT is essentially a form of "development insurance" with the Government sharing the financial risk of the development with the sponsoring company.

PAIT assistance is available to individual Canadian companies or groups of Canadian companies for developmental projects to be carried out and exploited in Canada. Companies are expected to have the capabilities and facilities to undertake the development work and also to provide for the manufacture and sale of the resulting products in both domestic and export markets. This Program is designed to increase the technical competitiveness of Canadian industry and is also intended to help create an industrial environment attractive to Canada's best-qualified scientific, technical and managerial personnel.

Since the inception of the PAIT program, 109 Government-assisted development projects, representing a total effort of approximately \$35,000,000, have been undertaken by Canadian firms.

Industrial Research and Development Incentives Act.—The Department of Industry is responsible for administering the program of the Industrial Research and Development Incentives Act (IRDIA), enacted in March 1967. The Act provides for cash grants in place of the former tax allowance for research and development. Grant or equivalent tax credits are available for 25 p.c. of capital expenditures for scientific research and development in Canada, and for the increase in current expenditures in Canada for scientific research and development over the average of such expenditures in the preceding five years.

To qualify for a grant, expenditures must be for scientific research and development which, if successful, is likely to lead to or facilitate an extension of the business of the corporation. Accordingly, corporations must usually undertake to exploit the results of the research and development in Canada. Also, corporations must normally be free to export products resulting from the research and development to all countries in the world.

Automotive Program.—The Canada-United States Agreement on Automotive Products, signed by Prime Minister Pearson and President Johnson on Jan. 16, 1965, provides for the removal of tariffs and other impediments to trade between the two countries in motor vehicles and original equipment parts. The basic objective of the plan is to provide access to expanded markets for Canadian motor vehicle and component producers. By increased production and specialization, they will be in a position to expand trade and employment and to improve the productivity and efficiency of the industry. In order to enable Canadian vehicle and parts producers to achieve these objectives, a number of important features were incorporated into the program. The most important of these was the undertaking of Canadian motor vehicle manufacturers to expand very considerably Canadian production by the end of the 1968 calendar year.

As a result of the new program, Canada is producing an increasingly larger share of the total North American output of vehicles and components. Canadian exports of vehicles and parts and employment in this industry have increased substantially since the implementation of the program and new investment in additional plants and expansions to existing facilities has been extensive.

Machinery Program.—A Machinery Program was introduced by the Department of Industry in 1967 with two main objectives—to encourage efficiency by permitting Canadian industry to acquire capital equipment at the lowest possible cost, and to facilitate the development of more specialized lines of production by the Canadian machinery industry. Under this Program, a new tariff item (42700-1) will replace 18 existing items. Rates on these items have ranged up to 22½ p.c., depending on whether a machine was of a “class or kind” made in Canada. This class or kind distinction will disappear, replaced by a common rate of 2½ p.c. British Preference, 15 p.c. Most-Favoured-Nation. At the same time, the new tariff rate will apply to any products under the item which Canadian machinery manufacturers can produce as soon as they are able to do so. (Former tariff provisions excluded Canadian-made machines from protective rates until such machines accounted for 10 p.c. of domestic consumption in their class.) This provision will especially encourage the production of custom-designed machinery in Canada.

The Program will provide for remission of duty where this is in the public interest and the machinery imported is not available from production in Canada. A Machinery and Equipment Advisory Board will advise the Minister of Industry concerning eligibility of machinery for remission of duty in accordance with the Program criteria, with final authority for granting remission lying with the Governor in Council. A Review Board will be established to deal with appeals on the Board's findings. Machinery producers may also apply for remission of duty on production parts included in Tariff Item 42700-1 which they must import. This provision should stimulate Canadian machinery manufacturers to specialize their production and enable them to compete more effectively.

Building Equipment, Accessories and Materials Program (BEAM).—In 1967, the Department of Industry introduced the BEAM Program to assist in achieving greater productivity and efficiency in the manufacture and use of building equipment, accessories and materials. The Program has five main objectives: to establish a comprehensive construction information system; to promote the adoption of modular dimensional coordination of building components; to encourage the industrialization of the building process; to promote the adoption of uniform building regulations and standards; and to

establish a Design Awards Program. To assist the Department in defining the objectives and in developing and implementing the Program, three Industry Advisory Committees have been established on Modular Co-ordination, Construction Information Systems and Industrialized Building Techniques and Systems. These committees meet on a regular basis and include architects, engineers and representatives of trade unions and the manufacturing and building industries.

A study has been undertaken to determine the precise needs and priorities for construction information in Canada, to identify the ways in which a comprehensive and flexible information system could be developed and to enable government and industry to assess the feasibility of establishing such a system. The Industry Advisory Committee on Construction Information Systems is also considering the development of system designs and methods of coding and indexing information.

With the assistance of the Industry Advisory Committee on Modular Co-ordination the Department has developed a program to encourage the increased use of dimensional standardization of building components. A series of six conferences was held at major Canadian centres during October and November of 1967 to acquaint policy-makers within the industry with the technological and economic advantages of modular dimensioning. Clinics were planned to instruct architects, engineers, draftsmen and building supervisors on modular principles in building. A Directory of Canadian Modular Building Material is being prepared for publication by the Department.

To obtain a first-hand knowledge of industrialized building techniques, the Department sponsored three industrial missions to European countries to study building systems based on prefabricated concrete, masonry and steel components. A national conference "A Systems Approach to Construction", is planned, to inform all sectors of the industry on the development of industrialized building techniques; it will be followed by a series of seminars and lectures with leading authorities participating. Because industrialized building would be greatly facilitated by the adoption of uniform building regulations, the development of performance standards, and the establishment of a means of assessing new building materials, systems and techniques, an in-depth study is being organized to point the way toward such developments.

The BEAM Design Awards Program being established will recognize design excellence of building equipment, accessories and materials which incorporate modular co-ordination, prefabrication, pre-assembly and standard component design. Submissions will be accepted in five categories—structural systems, exterior cladding, interior finishing systems and mechanical and electrical equipment.

Industrial Design.—The National Design Council and the Department of Industry sponsored many activities in 1967 and provided an advisory service to assist designers meet the challenges offered by Expo 67 and centennial year projects. Under the Canadian Design '67 Program, initiated in 1965 to encourage the manufacture of well-designed products for use in connection with centennial projects, catalogues of well-designed products were distributed to architects, contractors, buyers, retailers and business men in Canada and abroad and, to further promote these products, displays were shown across the country. More than 380 new product designs were accepted and promoted to prospective manufacturers and over 70 products were adopted and produced for centennial year.

Through the National Design Council and the Department of Industry, a very successful international congress and seminar on industrial design was held at Ottawa and Montreal in September 1967, attracting over 625 representatives from 32 countries.

Two Design-Canada awards projects, which are intended to recognize design achievements of Canadian manufacturers by offering awards and promotional benefits, were completed in 1967. The Structural Steel Awards Program attracted 62 entries—five designs of buildings or bridges received Awards of Excellence and seven entries were given Design of Merit recognition. The Concrete Awards Program, from 152 entries, recognized

three designs for Awards of Excellence and 14 as Designs of Merit. In 1967, a Design-Canada Centre was completed at Place Bonaventure in Montreal which, with the Toronto Centre, serves as a focal point for the promotion and display of products and design.

The Design-Canada service includes a reference service of books, periodicals and technical papers on design subjects; a record of professional designers and design services; a speakers' service; an audio-visual service with films, slides and other material for distribution, lending or sale; and a product index, which is an illustrated record of all products accepted for design promotion by committees appointed by the National Design Council. An advisory service is available on request to designers, manufacturers, business men, educators and the general public; an advisory service is also available to government agencies responsible for office installations on the premise that good design can improve the operational efficiency of the working environment with considerable cost reductions.

Design-Canada scholarships and grants encourage advanced training and research in the field of industrial design and support the promotion of industrial design in Canada.

Area Development Program.—The area development program fosters economic development in designated areas characterized by high chronic unemployment, slow employment growth and serious problems of under-employment as measured by low non-farm family income. Development grants of up to one third of the capital cost of new machinery and equipment and new buildings are available to assist new and expanding manufacturing and processing industries in the designated areas. In addition, special accelerated depreciation allowances are available for tax purposes on new machinery, equipment and new buildings, or on significant extensions of old ones.

The program embraces large regions of the country, in all provinces, with 92 Canada Manpower Centre areas and contiguous counties and census divisions being designated. The program covers areas comprising approximately 17 p.c. of the labour force. By the end of 1967, more than 1,200 firms had indicated intention to establish new or expanded facilities in designated areas and to invest more than \$1,800,000,000. It is estimated that over 50,000 new jobs will be provided directly by these new or expanded facilities and that a similar number of additional jobs associated with supply and service industries will be provided.

Defence Product-Development Assistance.—This program provides funds for Departmental activity to sustain technological capability in Canadian industry by sharing the cost of selected defence development projects, the amount authorized for the year ended Mar. 31, 1968, being \$25,000,000. In some cases, project costs are shared with the United States and other allied governments. Typical of projects supported under the program to meet present or anticipated requirements of allied governments are: Helicopter Logistic Devices at Okanagan Helicopters (Vancouver); Air Transportable Maintenance Shop at ATCO (Calgary); Black Brant Family of Rockets at Bristol Aerospace (Winnipeg); Tilt Wing Aircraft at Canadair (Montreal); High Frequency Sounding Equipment at EMI Cossor (Halifax); Xenon Light Sources at Atlantic Films (St. John's, Nfld.); the Twin Otter Aircraft Turbinization Project at de Havilland (Toronto); the OT-4 Stationary Gas Turbine Engine at Orenda (Toronto); and Parachute Developments at Irvin Airchute (Fort Erie).

Adjustment Assistance (for Firms in the Automotive Parts Industries).—The Automotive Program offers increased opportunities to Canadian automotive parts manufacturers for expanded production, rationalization of output and reduced costs. In order to take advantage of these opportunities, Canadian parts makers must engage in substantial re-equipment and plant expansion programs. The Adjustment Assistance Program has been established to make term loans available to automotive parts manufacturers for the financing of the acquisition, construction, installation and modernization of facilities or machinery and for use as working capital.

A program of tariff remissions on imported machinery and equipment was also introduced in order to further assist the automotive parts producers to expand and modernize productive facilities. The tariff remissions cover machinery and equipment used in the production of original equipment automotive parts, accessories and tooling when such machinery and equipment are not available from Canadian manufacturers in time to meet production schedules.

Adjustment Assistance (General).—In late 1967, the Government put forward a program of adjustment assistance related to the Kennedy Round. Objectives of the program are, first, to enable Canadian industries to benefit as much as possible from the widening markets and the increased scope for specialization and longer production runs and, secondly, to assist firms adversely affected by Kennedy Round agreements to adapt to more competitive conditions. Some firms will be forced to reorganize and re-equip to meet new challenges and others may wish to extend their opportunities. Under this program, the Government proposes to offer insurance on the major share of risk of loss for industrial adjustment assistance loans made by private lenders. Where obvious injury can be proved, direct loans may be made available. Technical assistance may also be offered to manufacturers preparing adjustment proposals in order to improve production, managerial skills, marketing and financial operations.

To be eligible for insured loans, firms must establish injury resulting from Kennedy Round tariff reductions or show that their export opportunities are significantly increased. A plan for re-structuring operations on a more competitive basis must be presented. An Adjustment Assistance Board will examine the feasibility of such plans. Finally, firms must demonstrate that suitable financing is not available from other sources on reasonable terms. Where a firm has incurred serious threat or injury due to the tariff changes, and where suitable private financing is not available, the Government may offer direct loans on the condition that a firm co-operate fully with the Board in seeking a workable solution to its difficulties. When necessary, firms may be assisted to find competent technical and professional advice from the private sector. The Government may contribute a maximum of 50 p.c. of the cost of such consulting services.

Shipbuilding Construction Assistance.—During 1967, the Federal Government continued its program of encouraging a self-sustaining and efficient shipbuilding industry. The program included examination of financial measures in support of shipbuilding and the application of general assistance plans administered by the Department of Industry. Legislation introduced in 1967 included transfer of responsibility for shipbuilding matters from the Canadian Maritime Commission to the Department of Industry.

The industry continued to respond to the policy of national competition for government shipbuilding requirements. Similarly, the industry made active use of the subsidy program for commercial vessels which provides a subsidy rate of 25 p.c. for vessels other than fishing trawlers for the period 1966-69, after which time it will be reduced by 2 p.c. each year until a rate of 17 p.c. is reached in 1972. The subsidy rate of 50 p.c. for fishing trawlers was reduced to 35 p.c.

With the support of other programs such as the Defence Development Sharing Program, the Department has encouraged the development of production of marine components and exports in this area have been increased.

Technical Missions.—Technical missions concerning magnesium manufacturing, structural steel, and powder metallurgy technology were recently organized to visit industrial establishments in the United States and Europe. The purpose of these missions is to enable Canadian business men to examine and assess the latest technological developments taking place outside Canada in their particular industries. The information gained is prepared in report form and circulated to Canadian industry.

CHAPTER XVII.—CAPITAL EXPENDITURES, CONSTRUCTION AND HOUSING*

CONSPECTUS

	PAGE		PAGE
SECTION 1. CAPITAL EXPENDITURES ON CONSTRUCTION AND ON MACHINERY AND EQUIPMENT.....	723	SECTION 3. HOUSING.....	737
SECTION 2. CONSTRUCTION STATISTICS.....	729	Subsection 1. Government Aid to House-Building.....	737
Subsection 1. Value of Construction Work Performed.....	729	Subsection 2. Housing Activities in 1966-67.....	740
Subsection 2. Contracts Awarded and Building Permits Issued.....	734	Subsection 3. Housing Statistics of the Census.....	745

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

This Chapter provides data on the capital expenditures made by all sectors of the Canadian economy on construction and on machinery and equipment, together with summaries of other available statistics for the construction industry. Section 1 shows the amounts spent by each of the various industrial or economic sectors. Section 2 brings together a number of summaries of related series on construction activity—value of work performed by type of structure, value of materials used, salaries and wages paid and numbers employed, contracts awarded and building permits issued. Government aid to house-building, construction of dwelling units and housing statistics of the Census are covered in Section 3.

Section 1.—Capital Expenditures on Construction and on Machinery and Equipment

Capital expenditures† in all sectors of the economy amounted to \$14,897,000,000 in 1966, an increase of 15.8 p.c. over the 1965 total of \$12,865,000,000. The over-all increase resulted from a 15.2-p.c. rise in construction expenditures and a 16.9-p.c. increase in the purchase of machinery and equipment. After 1946, capital outlays in Canada increased each year to a peak in 1957. A four-year decline followed but a significant increase shown in 1962 was strengthened in the next four years. Capital spending in current dollars exceeded the 1957 peak in these years but, in constant dollars, the 1957 level was not exceeded until 1964; in that year the capital program was recorded at 8.4 p.c. above 1957 and in 1965 and 1966 it was 21.7 p.c. and 34.8 p.c. higher, respectively. These expenditures on the expansion, modernization or renewal of the nation's production facilities are a significant indicator of the economic activity in the country; in 1966 they represented over 25 p.c. of the gross national product.

As shown in Table 1, construction accounts for almost two thirds of the total capital expenditures each year, and machinery and equipment for the remainder. Recently, there has been a slightly upward trend in the proportion of the total represented by the

* Except where otherwise noted, prepared in the Business Finance Division, Dominion Bureau of Statistics.

† Capital expenditure figures for 1965 and earlier years are final and those for 1966 are preliminary and subject to revision at a later date. Capital expenditures for 1965 and 1966, as well as intentions for 1967, appear in greater detail in the publication *Private and Public Investment in Canada, Outlook 1967*, available from the Queen's Printer (Catalogue No. 61-205).

purchase of machinery and equipment, which rose from 32.5 p.c. in 1961 to 37.3 p.c. in 1966. The proportion for housing construction moved upward from 17.9 p.c. in 1961 to 18.5 p.c. in 1964 but dropped to 14.6 p.c. in 1966. Non-residential construction outlays dropped from 49.6 p.c. of the total in 1961 to 45.5 p.c. in 1964 but increased in 1966 to 48.1 p.c.

1.—Capital Expenditures on Construction and on Machinery and Equipment, in Current and Constant (1957) Dollars, 1957-66

NOTE.—Actual expenditures 1957-65; preliminary actual 1966.

Year	Capital Expenditures						Total Expenditure as Percentage of Gross National Product	
	Construction		Machinery and Equipment		Totals			
	Current Dollars	Constant 1957 Dollars	Current Dollars	Constant 1957 Dollars	Current Dollars	Constant 1957 Dollars	Current Dollars	Constant 1957 Dollars
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	p. c.	p. c.
1957	5,784	5,784	2,933	2,933	8,717	8,717	27.3	27.3
1958	5,830	5,865	2,534	2,467	8,364	8,332	25.4	25.9
1959	5,709	5,557	2,708	2,590	8,417	8,147	24.1	24.5
1960	5,453	5,224	2,809	2,636	8,262	7,860	22.8	23.0
1961	5,518	5,346 ^r	2,654	2,456 ^r	8,172	7,802 ^r	21.8	22.3
1962	5,787	5,475 ^r	2,928	2,634 ^r	8,715	8,109 ^r	21.5	21.7
1963	6,157	5,613 ^r	3,236	2,837 ^r	9,393	8,450 ^r	21.6	21.5 ^r
1964	7,004	6,119 ^r	3,940	3,334	10,944	9,453 ^r	23.1	22.6 ^r
1965	8,115 ^r	6,694 ^r	4,750 ^r	3,917 ^r	12,865 ^r	10,611 ^r	24.7 ^r	23.7 ^r
1966	9,346	7,263	5,551	4,487	14,897	11,750	25.8	24.8

The large increase in capital expenditures in 1966 over 1965 reflected substantially higher outlays in almost all economic sectors. Expenditures in the mining industry increased by \$259,000,000, or 35 p.c., much of it accounted for by sizable developments in iron, copper and potash. Investment in new manufacturing facilities rose by about 20 p.c., mainly attributable to expenditures on large projects in the pulp and paper, primary metals, electrical products and non-metallic mineral industries. Outlays by utilities continued upward, large expenditures being made on electric power installations, telephone facilities and new aircraft. Housing expenditures remained about the same as in 1965. Trade, finance and commercial services increased to \$1,462,000,000 from \$1,269,000,000, reflecting expanded programs for wholesale and retail outlets and for projects related to Expo 67. Capital expenditures by government departments increased at all levels—federal, provincial and municipal; large road-building programs contributed heavily to the increased total.

Each of the five major regions of Canada contributed to the 1966 increase in capital spending. The increases varied from 25 p.c. in the Atlantic Provinces to 18 p.c. in the Prairie Provinces, 17 p.c. in Ontario, 9 p.c. in Quebec and 3 p.c. in British Columbia. It should be noted that sharp year-to-year fluctuations in capital outlays in any one province are often associated with changing phases of a few large projects.

In 1966 capital outlays increased in each of the *Atlantic Provinces* but most of the growth was concentrated in Nova Scotia and Newfoundland. Increases in social capital expenditures were especially prominent and were related to large education, hospital and road-building programs. In the manufacturing and utilities sectors, increases in expenditures by the pulp and paper industry in Nova Scotia and electric power developments in New Brunswick and Newfoundland were the most notable. In *Quebec*, the major advance in capital spending occurred in the manufacturing and commercial services sectors. Within the manufacturing group, the major increases were in pulp and paper, primary metals and the chemical and chemical products industries. Preparations for Expo 67 resulted in a substantial increase in commercial construction. In *Ontario*, all major

sectors of capital spending were substantially higher than in 1965. The greatest increase in strength occurred in manufacturing, with expansion in the automotive, primary metals, electrical products and non-metallic mineral products industries. New mining developments, expansion of electric power, telephone and water system utilities coupled with an acceleration of university, hospital, school and road construction contributed importantly to the larger total. Capital outlays in the *Prairie Provinces* strengthened in all sectors of the economy with the exception of housing. In Alberta and Saskatchewan, large increases took place in the primary resources sectors where new oil and potash projects were initiated. Additional chemical facilities were the main reason for larger expenditures for manufacturing in Manitoba. Social capital outlays in the *Prairie Provinces* also increased substantially, particularly those for education and health services. In *British Columbia*, a further rapid advance in capital spending for new pulp and paper and power projects took place. In addition, there was an increase in social capital spending for schools.

2.—Summary of Capital and Repair Expenditures, by Economic Sector, 1965 and 1966

NOTE.—Actual expenditures 1965; preliminary actual 1966.

(Millions of dollars)

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total
Agriculture and fishing.....1965	210	716	926	84	179	263	294	895	1,189
.....1966	220	781	1,001	88	191	279	308	972	1,280
Forestry.....1965	43	53	96	17	38	55	60	91	151
.....1966	42	47	89	17	35	52	59	82	141
Mining, quarrying and oil wells.....1965	599	136	735	51	172	223	650	308	958
.....1966	734	260	994	58	190	248	792	450	1,242
Manufacturing.....1965	604	1,736	2,340	151	823	974	755	2,559	3,314
.....1966	773	2,030	2,803	158	871	1,029	931	2,901	3,832
Utilities.....1965	1,443	980	2,423	301	566	867	1,744	1,546	3,290
.....1966	1,719	1,173	2,892	312	610	922	2,031	1,783	3,814
Construction.....1965	17	246	263	5	178	183	22	424	446
.....1966	17	250	267	4	190	194	21	440	461
Housing.....1965	2,133	—	2,133	618	—	618	2,751	—	2,751
.....1966	2,181	—	2,181	661	—	661	2,842	—	2,842
Trade (wholesale and retail).....1965	154	241	395	45	57	102	199	298	497
.....1966	198	239	437	44	62	106	242	301	543
Finance, insurance and real estate.....1965	367	60	427	24	7	31	391	67	458
.....1966	405	64	469	25	8	33	430	72	502
Commercial services.....1965	184	263	447	20	67	87	204	330	534
.....1966	239	317	556	22	69	91	261	386	647
Institutional services.....1965	867	145	1,012	64	18	82	931	163	1,094
.....1966	1,016	170	1,186	75	18	93	1,091	188	1,279
Government departments.....1965	1,494	174	1,668	375	67	442	1,869	241	2,110
.....1966	1,802	220	2,022	389	72	461	2,191	292	2,483
Totals.....1965	8,115	4,750	12,865	1,755	2,172	3,927	9,870	6,922	16,792
.....1966	9,346	5,551	14,897	1,853	2,316	4,169	11,199	7,867	19,066

Details of some of the above economic sectors are given in Table 3. The value of construction work performed, together with statistics of contracts awarded and building permits issued in recent years, is covered in Section 2 of this Chapter. Housing is treated separately in Section 3.

3.—Capital and Repair Expenditures for Certain Economic Sectors, 1965 and 1966

NOTE.—Actual expenditures 1965; preliminary actual 1966.

(Millions of dollars)

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total
MANUFACTURING									
Foods and beverages.....1965	60.0	139.3	199.3	17.5	78.9	96.4	77.5	218.2	295.7
.....1966	70.7	146.2	216.9	17.1	74.5	91.6	87.8	220.7	308.5
Tobacco products.....1965	2.3	9.9	12.2	0.8	4.2	5.0	3.1	14.1	17.2
.....1966	6.2	8.6	14.8	1.5	4.9	6.4	7.7	13.5	21.2
Rubber.....1965	6.1	20.0	26.1	1.6	14.4	16.0	7.7	34.4	42.1
.....1966	14.7	33.0	47.7	1.5	15.6	17.1	16.2	48.6	64.8
Leather.....1965	1.0	3.7	4.7	0.7	3.5	4.2	1.7	7.2	8.9
.....1966	2.3	5.2	7.5	0.6	3.3	3.9	2.9	8.5	11.4
Textile.....1965	32.8	76.0	108.8	5.4	26.2	31.6	38.2	102.2	140.4
.....1966	29.9	73.0	102.9	4.9	24.6	29.5	34.8	97.6	132.4
Clothing and knitting mills...1965	3.9	15.0	18.9	1.4	5.6	7.0	5.3	20.6	25.9
.....1966	5.1	16.5	21.6	1.5	6.1	7.6	6.6	22.6	29.2
Wood.....1965	22.9	53.6	76.5	7.2	48.4	55.6	30.1	102.0	132.1
.....1966	19.6	43.2	62.8	7.2	45.3	52.5	26.8	88.5	115.3
Furniture and fixtures.....1965	6.7	8.9	15.6	1.6	3.4	5.0	8.3	12.3	20.6
.....1966	12.6	10.2	22.8	1.5	3.6	5.1	14.1	13.8	27.9
Paper and allied industries...1965	111.5	306.4	417.9	14.6	132.7	147.3	126.1	439.1	565.1
.....1966	137.4	424.8	562.2	12.1	144.4	156.5	149.5	569.2	718.7
Printing, publishing and allied industries.....1965	17.6	32.6	50.2	3.6	9.8	13.4	21.2	42.4	63.6
.....1966	11.9	35.9	47.8	4.0	9.3	13.3	15.9	45.2	61.1
Primary metals.....1965	61.7	202.9	264.6	18.4	214.9	233.3	80.1	417.8	497.9
.....1966	89.9	279.4	369.3	21.4	251.6	273.0	111.3	531.0	642.3
Metal fabricating.....1965	32.9	75.4	108.3	6.9	37.0	43.9	39.8	112.4	152.2
.....1966	34.2	85.9	120.1	8.1	34.7	42.8	42.3	120.6	162.9
Machinery.....1965	13.8	34.0	47.8	4.2	16.1	20.3	18.0	50.1	68.1
.....1966	21.0	35.1	56.1	4.2	15.4	19.6	25.2	50.5	75.7
Transportation equipment...1965	64.5	157.1	221.6	9.7	52.8	62.5	74.2	209.9	284.1
.....1966	90.1	154.5	244.6	9.5	54.0	63.5	99.6	208.5	308.1
Electrical products.....1965	17.6	48.9	66.5	5.2	26.7	31.9	22.8	75.6	98.4
.....1966	34.8	72.7	107.5	5.6	27.3	32.9	40.4	100.0	140.4
Non-metallic mineral products.....1965	30.0	78.3	108.3	6.3	66.1	72.4	36.3	144.4	180.7
.....1966	46.3	98.5	144.8	6.6	67.0	73.6	52.9	165.5	218.5
Petroleum and coal products.1965	30.3	10.3	40.6	29.5	7.0	36.5	59.8	17.3	77.1
.....1966	56.1	9.6	65.7	33.0	8.3	41.3	89.1	17.9	107.0
Chemicals and chemical products.....1965	76.2	203.3	279.5	13.3	65.2	78.5	89.5	268.5	358.0
.....1966	75.4	201.9	277.3	14.3	71.1	85.4	89.7	273.0	362.7
Miscellaneous.....1965	12.4	27.5	39.9	2.8	10.4	13.2	15.2	37.9	53.1
.....1966	14.6	31.6	46.2	3.0	10.1	13.1	17.6	41.7	59.7
Capital items charged to operating expenses.....1965	—	232.6	232.6	—	—	—	—	232.6	232.6
.....1966	—	263.7	263.7	—	—	—	—	263.7	263.7
Totals, Manufacturing 1965	604.2	1,735.7	2,339.9	150.7	833.3	974.0	754.9	2,559.0	3,313.9
.....1966	772.8	2,029.5	2,802.3	157.6	871.1	1,028.7	930.4	2,900.6	3,831.1

3.—Capital and Repair Expenditures for Certain Economic Sectors, 1965 and 1966—continued

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total
MINING									
Metal mines.....1965	121.5	79.3	200.8	21.9	100.4	122.3	143.4	179.7	323.9
1966	196.3	141.4	337.7	23.9	110.3	134.2	220.2	251.7	471.1
Iron mines.....1965	31.6	34.6	66.2	6.9	55.0	61.9	38.5	39.6	128.1
1966	69.9	61.1	131.0	8.3	62.5	70.8	78.2	123.6	201.8
Other metal mines.....1965	89.9	44.7	134.6	15.0	45.4	60.4	104.9	90.1	195.0
1966	126.4	80.3	206.7	15.6	47.8	63.4	142.0	128.1	270.1
Mineral fuels.....1965	419.2	22.1	441.3	25.5	23.9	49.4	444.7	46.0	490.7
1966	437.9	48.6	486.5	30.8	29.9	60.7	468.7	78.5	547.2
Coal mines.....1965	0.8	2.9	3.7	1.0	6.2	7.2	1.8	9.1	10.9
1966	0.9	2.2	3.1	0.4	8.1	8.6	1.3	10.3	11.6
Petroleum and gas ¹.....1965	418.4	19.2	437.6	24.5	17.7	42.2	442.9	36.9	479.8
1966	437.0	46.4	483.4	30.4	21.8	52.2	467.4	68.2	535.6
Other mining.....1965	58.0	34.7	92.7	3.7	47.3	51.0	61.7	82.0	143.7
1966	100.2	69.5	169.7	2.9	49.5	52.4	103.1	119.0	222.1
Totals, Mining.....1965	598.7	136.1	734.8	51.1	171.6	222.7	649.8	307.7	957.5
1966	734.4	259.5	993.9	57.6	189.7	247.3	792.0	449.2	1,241.2
UTILITIES									
Electric power.....1965	727.3	211.8	939.1	52.2	36.9	89.1	779.5	248.7	1,028.2
1966	865.2	271.2	1,136.4	55.8	40.7	96.5	921.0	311.9	1,232.9
Gas distribution.....1965	54.2	18.3	72.5	6.9	2.6	9.5	61.1	20.9	82.0
1966	66.6	18.4	85.0	6.1	2.4	8.5	72.7	20.8	93.5
Railway transport.....1965	107.5	172.6	280.1	137.1	208.9	346.0	244.6	381.5	626.1
1966	146.8	162.9	309.7	143.8	214.9	358.7	290.6	377.8	668.4
Urban transit systems.....1965	72.7	55.9	128.6	3.2	18.4	21.6	75.9	74.3	150.2
1966	59.9	49.1	109.0	3.4	20.5	23.9	63.3	69.6	132.9
Water transport and services.....1965	35.6	73.3	108.9	9.7	19.6	29.3	45.3	92.9	138.2
1966	50.9	52.5	103.4	12.2	20.1	32.3	63.1	72.6	135.7
Motor transport.....1965	5.9	73.1	79.0	2.7	70.8	73.5	8.6	143.9	152.5
1966	7.2	57.7	64.9	2.2	75.9	78.1	9.4	133.6	143.0
Grain elevators.....1965	9.8	4.1	13.9	6.8	2.4	9.2	16.6	6.5	23.1
1966	25.5	4.1	29.6	6.9	2.1	9.0	32.4	6.2	38.6
Telephones and telegraph and cable systems.....1965	158.6	234.3	442.9	50.1	132.7	182.8	208.7	417.0	625.7
1966	185.6	339.0	524.6	51.3	155.3	206.6	236.9	494.3	731.2
Broadcasting.....1965	7.5	15.4	22.9	1.0	4.0	5.0	8.5	19.4	27.9
1966	7.9	36.9	44.8	0.9	3.2	4.1	8.8	40.1	48.9
Water systems.....1965	109.9	5.1	115.0	22.9	2.4	25.3	132.8	7.5	140.3
1966	112.6	3.4	116.0	20.1	2.0	22.1	132.7	5.4	138.1
Other utilities.....1965	154.4	46.2	200.6	8.2	66.9	75.1	162.6	113.1	275.7
1966	190.7	154.9	345.6	8.9	73.0	81.9	199.6	227.9	427.5
Capital items charged to operating expenses.....1965	—	19.8	19.8	—	—	—	—	19.8	19.8
1966	—	22.9	22.9	—	—	—	—	22.9	22.9
Totals, Utilities.....1965	1,443.4	979.9	2,423.3	300.8	565.6	866.4	1,744.2	1,545.5	3,289.7
1966	1,718.9	1,173.0	2,891.9	311.6	610.1	921.7	2,030.5	1,783.1	3,813.6

¹ Includes natural gas processing plants and contract drilling for petroleum and gas.

3.—Capital and Repair Expenditures for Certain Economic Sectors, 1965 and 1966—concluded

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total
TRADE									
Wholesale.....1965	29.3	46.6	75.9	7.9	12.0	19.9	37.2	58.6	95.8
.....1966	44.4	43.8	88.2	6.9	13.6	20.5	51.3	57.4	108.7
Chain stores.....1965	26.9	49.7	76.6	6.5	10.0	16.5	33.4	59.7	93.1
.....1966	30.2	48.8	79.0	6.5	10.4	16.9	36.7	59.2	95.9
Independent stores.....1965	41.0	75.3	116.3	11.7	15.8	27.5	52.7	91.1	143.8
.....1966	47.9	74.2	122.1	10.9	16.6	27.5	58.8	90.8	149.6
Department stores.....1965	19.3	19.2	38.5	6.4	3.2	9.6	25.7	22.4	48.1
.....1966	34.5	17.7	52.2	5.9	3.5	9.4	40.4	21.2	61.6
Automotive trade.....1965	37.0	28.2	65.2	12.9	15.8	28.7	49.9	44.0	93.9
.....1966	40.7	32.6	73.3	13.5	17.4	30.9	54.2	50.0	104.2
Capital items charged to operating expenses.....1965	—	22.1	22.1	—	—	—	—	22.1	22.1
.....1966	—	22.3	22.3	—	—	—	—	22.3	22.3
Totals, Trade.....1965	153.5	241.1	394.6	45.4	56.8	102.2	198.9	297.9	496.8
.....1966	197.7	239.4	437.1	43.7	61.5	105.2	241.4	300.9	542.3
INSTITUTIONS									
Churches.....1965	45.4	4.3	49.7	7.3	0.8	8.1	52.7	5.1	57.8
.....1966	35.7	3.5	39.2	6.0	0.4	6.4	41.7	3.9	45.6
Universities.....1965	222.5	33.5	256.0	5.9	1.0	6.9	228.4	34.5	262.9
.....1966	266.3	41.3	307.6	10.4	1.4	11.8	276.7	42.7	319.4
Schools.....1965	423.4	63.7	487.1	30.4	7.0	37.4	453.8	70.7	524.5
.....1966	512.9	78.4	591.3	32.4	6.7	39.1	545.3	85.1	630.4
Hospitals.....1965	152.5	40.9	193.4	18.5	8.8	27.3	171.0	49.7	220.7
.....1966	178.9	43.8	222.7	24.3	8.8	33.1	203.2	52.6	255.8
Other institutional services...1965	23.6	2.8	26.4	2.0	0.6	2.6	25.6	3.4	29.0
.....1966	21.8	2.5	24.3	1.6	0.4	2.0	23.4	2.9	26.3
Totals, Institutions...1965	867.4	145.2	1,012.6	64.1	18.2	82.3	931.5	163.4	1,094.9
.....1966	1,015.6	169.5	1,185.1	74.7	17.7	92.4	1,090.3	187.2	1,277.5
FINANCE									
Banks.....1965	26.8	17.9	44.7	4.3	3.3	7.6	31.1	21.2	52.3
.....1966	23.8	19.2	43.0	4.9	3.6	8.5	28.7	22.8	51.5
Insurance, trust and loan companies.....1965	14.8	10.6	25.4	3.6	0.9	4.5	18.4	11.5	29.9
.....1966	16.6	11.0	27.6	2.5	1.1	3.6	19.1	12.1	31.2
Other finance.....1965	325.8	31.2	357.0	15.7	3.2	18.9	341.5	34.4	375.9
.....1966	364.2	33.8	398.0	17.4	3.5	20.9	381.6	37.3	418.9
Totals, Finance.....1965	367.4	59.7	427.1	23.6	7.4	31.0	391.0	67.1	458.1
.....1966	404.6	64.0	468.6	24.8	8.2	33.0	429.4	72.2	501.6
COMMERCIAL SERVICES									
Laundries and dry-cleaners...1965	1.9	8.1	10.0	1.2	4.2	5.4	3.1	12.3	15.4
.....1966	1.0	6.7	7.7	1.3	4.0	5.3	2.3	10.7	13.0
Theatres.....1965	2.8	2.2	5.0	1.7	0.9	2.6	4.5	3.1	7.6
.....1966	1.0	1.6	2.6	2.8	0.5	3.3	3.8	2.1	5.9
Hotels.....1965	57.9	15.5	73.4	12.5	7.4	19.9	70.4	22.9	93.3
.....1966	60.6	17.2	77.8	13.1	7.9	21.0	73.7	25.1	98.8
Other commercial services...1965	121.1	237.2	358.3	4.2	54.9	59.1	125.3	292.1	417.4
.....1966	176.7	291.4	468.1	4.9	56.6	61.5	181.6	348.0	529.6
Totals, Commercial Services.....1965	183.7	263.0	446.7	19.6	67.4	87.0	203.3	330.4	533.7
.....1966	239.3	316.9	556.2	22.1	69.0	91.1	261.4	385.9	647.3

A summary of the capital expenditures in each province for the years 1965 and 1966 is given in Table 4. Such expenditures represent gross additions to the capital stocks of the province and are a reflection of economic activity in the area, although the actual production of these assets may generate major employment and income-giving effects in other regions. For example, the spending of millions of dollars on oil refineries and pipelines in Western Canada means activity in the steel industries of Ontario as well as construction activity in the western provinces.

4.—Capital and Repair Expenditures, by Province, 1965 and 1966

NOTE.—Actual expenditures 1965; preliminary actual 1966.

(Millions of dollars)

Province and Year	Capital			Repair			Capital and Repair		
	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total
Newfoundland.....1965	152	76	228	34	53	87	186	129	315
.....1966	221	113	334	37	55	92	258	168	426
Prince Edward Island.....1965	31	26	57	8	8	16	39	34	73
.....1966	34	30	64	8	8	16	42	38	80
Nova Scotia.....1965	199	119	318	57	59	116	256	178	434
.....1966	235	165	400	62	61	123	297	226	523
New Brunswick.....1965	210	124	334	44	50	94	254	174	428
.....1966	237	135	372	46	51	97	283	186	469
Quebec.....1965	2,200	1,006	3,206	418	516	934	2,618	1,522	4,140
.....1966	2,298	1,193	3,491	440	558	998	2,738	1,751	4,489
Ontario.....1965	2,533	1,846	4,379	641	830	1,471	3,174	2,676	5,850
.....1966	3,073	2,042	5,115	682	882	1,564	3,755	2,924	6,679
Manitoba.....1965	324	213	537	91	106	197	415	319	734
.....1966	402	254	656	95	110	205	497	364	861
Saskatchewan.....1965	472	301	773	94	106	200	566	407	973
.....1966	561	368	929	102	114	216	663	482	1,145
Alberta.....1965	916	404	1,320	177	167	344	1,093	571	1,664
.....1966	1,072	441	1,513	178	179	357	1,250	620	1,870
British Columbia.....1965	1,078	635	1,713	191	277	468	1,269	912	2,181
.....1966	1,213	810	2,023	203	298	501	1,416	1,108	2,524
Totals.....1965	8,115	4,750	12,865	1,755	2,172	3,927	9,870	6,922	16,792
.....1966	9,346	5,551	14,897	1,853	2,316	4,169	11,199	7,867	19,066

Section 2.—Construction Statistics

Subsection 1.—Value of Construction Work Performed

Statistics of the construction industry are based largely on information received at the same time and from the same sources as the data on capital expenditures that appear in Section 1. The data represent the estimated total value of all new and repair construction performed by contractors, by labour forces of utility, manufacturing, mining and logging firms, and by government departments, home-owner builders and other persons or firms not primarily engaged in the construction industry. Table 5 shows the value of new and repair construction work performed during the period 1957-66 and Table 6 shows the value of such work performed by contractors and others in the years 1963-66.

5.—Value of New and Repair Construction Work Performed, 1957-66

NOTE.—Actual expenditures 1957-65; preliminary actual 1966.

Year	New	Repair	Total	Total Construction as Percentage of Gross National Product
	\$'000,000	\$'000,000	\$'000,000	p.c.
1957.....	5,785	1,238	7,023	22.0
1958.....	5,831	1,261	7,092	21.6
1959.....	5,710	1,367	7,077	20.3
1960.....	5,454	1,432	6,886	19.0
1961.....	5,518	1,456	6,974	18.7
1962.....	5,787	1,509	7,296	18.1
1963.....	6,157	1,559	7,716	17.8
1964.....	7,004	1,630	8,634	18.2
1965.....	8,114	1,754	9,868	18.9
1966.....	9,346	1,853	11,199	19.3

6.—Value of Construction Work Performed, by Contractors and Others, 1963-66

NOTE.—Actual expenditures 1963-65; preliminary actual 1966.
(Millions of dollars)

Item	1963	1964	1965	1966
Contract Construction	6,034	6,833	7,870	8,903
New.....	5,213	5,937	6,904	7,889
Repair.....	821	896	966	1,014
Other Construction¹	1,682	1,801	1,998	2,296
New.....	944	1,067	1,210	1,457
Repair.....	738	734	788	839
Totals, Construction	7,716	8,634	9,868	11,199
New.....	6,157	7,004	8,114	9,346
Repair.....	1,559	1,630	1,754	1,853

¹ Work done by the labour forces of utilities, manufacturing, mining and logging firms, government departments, institutions and other persons or firms not primarily engaged in the construction industry.

Table 7 gives estimates of total expenditures in Canada on each type of construction for which information is available.

7.—Value of Construction Work Performed, by Type of Structure, 1965 and 1966

NOTE.—Actual expenditures 1965; preliminary actual 1966.

Type of Structure	1965			1966		
	New	Repair	Total	New	Repair	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Building Construction						
Residential	2,133,300	618,200	2,751,500	2,181,400	661,200	2,842,600
Industrial	625,068	159,388	775,456	825,588	152,867	978,455
Factories, plants, workshops, food canneries.....	559,886	120,023	679,909	681,919	119,307	801,226
Mine and mine mill buildings.....	52,199	11,745	63,944	121,602	15,108	136,710
Railway stations, offices, roadway buildings.....	8,105	12,330	20,435	14,208	12,175	26,383
Railway shops, engine houses, water and fuel stations.....	4,878	6,290	11,168	7,859	6,277	14,136

7.—Value of Construction Work Performed, by Type of Structure, 1965 and 1966—continued

Type of Structure	1965			1966		
	New	Repair	Total	New	Repair	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Building Construction—concluded						
Commercial	875,717	139,397	1,015,114	1,094,482	146,741	1,241,223
Warehouses, storehouses, refrigerated storage, etc.	67,016	13,453	80,469	98,625	15,190	113,815
Grain elevators	9,980	8,072	18,052	21,160	5,385	26,545
Hotels, clubs, restaurants, cafeterias, tourist cabins	82,038	15,377	97,415	98,511	16,825	115,336
Office buildings	361,913	47,052	408,965	411,281	54,614	465,895
Stores, retail and wholesale	217,634	34,554	252,188	254,712	32,388	287,100
Garages and service stations	43,295	13,206	56,501	47,777	12,503	60,280
Theatres, arenas, amusement and recreational buildings	91,871	6,435	98,306	161,413	8,548	169,961
Laundries and dry-cleaning establishments	1,970	1,248	3,218	1,003	1,288	2,291
Institutional	940,946	78,369	1,019,315	1,116,288	91,659	1,207,947
Schools and other educational buildings	632,092	39,604	671,696	769,071	46,073	815,144
Churches and other religious buildings	51,196	7,315	58,511	36,676	6,155	42,831
Hospitals, sanatoria, clinics, first-aid stations, etc.	162,621	21,948	184,569	183,659	27,645	211,304
Other	95,037	9,502	104,539	126,882	11,786	138,668
Other Building	254,841	89,415	344,256	281,395	91,535	372,930
Farm buildings (excluding dwellings)	137,782	54,559	192,341	149,206	56,785	205,991
Broadcasting, radio and television, relay and booster stations, telephone exchanges	41,102	3,090	44,192	45,915	3,172	49,087
Aeroplane hangars	518	3,237	3,755	1,093	3,972	5,065
Passenger terminals, bus, boat or air	9,265	764	10,029	22,853	1,092	23,945
Armouries, barracks, drill halls, etc.	6,397	15,028	21,425	7,546	15,518	23,064
Bunkhouses, dormitories, camp cookeries, bush depots and camps	11,379	3,898	15,277	16,367	3,509	19,876
Miscellaneous	48,398	8,839	57,237	38,415	7,487	45,902
Totals, Building Construction	4,829,872	1,075,769	5,905,641	5,499,153	1,144,002	6,643,155
Engineering Construction						
Marine	83,666	23,683	107,349	95,107	26,464	121,571
Docks, wharves, piers, breakwaters	45,638	9,937	55,575	56,673	13,165	69,838
Retaining walls, embankments, riprapping	5,751	1,153	6,904	5,094	525	5,619
Canals and waterways	19,717	5,156	24,873	14,955	5,784	20,739
Dredging and pile driving	7,836	4,123	11,959	11,969	4,131	16,100
Dyke construction	400	118	518	415	98	513
Logging booms	798	974	1,772	609	592	1,201
Other	3,526	2,222	5,748	5,392	2,169	7,561
Road, Highway and Aerodrome	839,896	227,125	1,067,021	963,625	236,071	1,199,696
Hard surfaced or paved streets, highways, parking lots, etc.	549,939	128,385	678,324	715,027	160,463	875,490
Gravel or stone streets, highways, roads, parking lots, etc.	195,449	68,590	264,039	121,162	42,587	163,749
Dirt, clay or other streets, roads, parking lots, etc.	34,876	11,770	46,646	48,707	16,852	65,559
Grading, scraping, oiling, filling	24,507	8,228	32,735	41,509	7,785	49,294
Sidewalks, paths	20,102	7,352	27,454	18,697	5,462	24,159
Aerodromes, landing fields, runways, tarmac	15,023	2,800	17,823	18,523	2,922	21,445

7.—Value of Construction Work Performed, by Type of Structure, 1965 and 1966—concluded

Type of Structure	1965			1966		
	New	Repair	Total	New	Repair	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Engineering Construction—concluded						
Waterworks and Sewerage Systems	306,034	55,260	361,294	352,678	56,359	409,037
Tile drains, drainage ditches, storm sewers.....	20,980	10,238	31,218	31,435	10,739	42,174
Water mains, hydrants and services.....	105,321	26,106	131,427	105,335	26,209	131,544
Sewerage systems and connections.....	149,871	13,395	163,266	177,818	16,247	194,065
Pumping stations, water.....	24,341	2,219	26,560	30,977	2,154	33,131
Water storage tanks.....	5,521	3,302	8,823	7,113	1,010	8,123
Dams and Irrigation	281,507	10,101	291,608	213,950	10,782	224,732
Dams and reservoirs.....	264,172	2,642	266,814	169,827	2,998	172,825
Irrigation and land reclamation projects.....	17,335	7,459	24,794	44,153	7,784	51,937
Electric Power	514,521	61,768	576,289	759,610	64,985	824,595
Electric power generating plants, including water conveying and controlling structures.....	175,912	14,492	190,404	385,209	15,638	400,847
Electric transformer stations.....	47,098	5,717	52,815	51,298	5,469	56,767
Power transmission and distribution lines, trolley wires.....	274,751	33,968	308,719	302,755	38,002	340,757
Street lighting.....	16,760	7,591	24,351	20,348	5,876	26,224
Railway, Telephone and Telegraph	246,825	158,813	405,638	289,475	167,104	456,579
Railway tracks and roadbed.....	102,086	100,805	202,891	123,735	107,529	231,264
Signals and interlockers.....	6,688	9,333	16,021	10,685	9,494	20,179
Telegraph and telephone lines, underground and marine cables..	138,051	48,675	186,726	155,055	50,081	205,136
Gas and Oil Facilities	566,252	67,219	633,471	581,728	73,455	655,183
Gas mains and services.....	45,411	5,534	50,945	61,889	5,338	67,227
Pumping stations, oil.....	2,237	1,207	3,444	12,200	1,813	14,013
Pumping stations, gas.....	3,650	732	4,382	7,595	326	7,921
Oil storage tanks.....	7,302	2,775	10,077	9,984	2,593	12,577
Gas storage tanks.....	1,338	80	1,418	4,076	151	4,227
Oil pipelines.....	39,924	2,132	42,056	60,310	2,139	62,449
Gas pipelines.....	50,125	1,124	51,249	38,223	1,150	39,373
Oil wells.....	275,715	14,619	290,334	245,300	19,146	264,446
Gas wells.....	66,649	3,714	70,363	69,614	4,982	74,596
Oil refinery—processing units ¹	36,233	28,620	64,853	50,379	30,410	80,789
Natural gas cleaning plants.....	37,668	6,682	44,350	22,158	5,407	27,565
Other Engineering	445,278	74,330	519,608	590,449	73,892	664,341
Bridges, trestles, culverts, overpasses, viaducts.....	186,888	28,805	215,693	198,402	28,740	227,142
Tunnels and subways.....	60,795	312	61,107	53,982	374	54,356
Incinerators.....	172	101	273	165	76	241
Park systems, landscaping, sodding, etc.....	8,215	3,492	11,707	16,554	5,384	21,938
Swimming pools, tennis courts, outdoor recreation facilities.....	2,713	1,164	3,877	9,563	1,250	10,813
Mine shafts and other below surface workings.....	54,162	4,545	58,707	112,191	3,525	115,716
Fences, snowsheds, signs, guard-rails.....	25,684	18,143	43,827	28,818	17,068	45,886
Miscellaneous.....	106,649	17,768	124,417	170,774	17,475	188,249
Totals, Engineering Construction	3,283,979	678,299	3,962,278	3,846,652	709,112	4,555,764
Totals, All Construction	8,113,851	1,754,068	9,867,919	9,345,805	1,853,114	11,198,919

¹ Includes related structures employed in production of chemicals.

Principal statistics of the construction industry are shown by province and for contractors, utilities, governments and others in Table 8. The statistics given for Canada as a whole may be considered as relatively accurate but those for individual provinces and

by class of builder are approximations only. All estimates given for cost of materials used are based on ratios of this item to total value of work performed, derived from annual surveys of construction work and applied to the total value-of-work figures. Estimates of labour content are similarly based but, in addition, are adjusted to include working owners and partners and their withdrawals. Although the ratios were calculated in some detail by type of industry, still further refinements are required. There are also some difficulties in obtaining the precise location of projects undertaken or to be undertaken by large companies operating in a number of provinces. However, if used with these qualifications in mind, the table provides useful estimates.

8.—Labour Content, Cost of Materials and Value of Work Performed in Construction, by Province and by Employer, 1965 and 1966 with Totals for 1962-66

NOTE.—Actual expenditures 1962-65; preliminary actual 1966. Comparable figures from 1953 are given in the corresponding table of previous Year Books beginning with the 1957-58 edition.

Province or Employer and Year	Labour Content		Cost of Materials Used	Value of Work Performed
	Number	Value		
		\$'000	\$'000	\$'000
Province				
Newfoundland.....1965	13,382	58,824	79,199	186,305
.....1966	17,292	83,052	113,485	258,420
Prince Edward Island.....1965	2,825	11,142	18,258	39,160
.....1966	2,698	11,751	19,344	42,136
Nova Scotia.....1965	21,244	88,375	120,328	256,356
.....1966	22,619	102,855	138,126	297,089
New Brunswick.....1965	19,131	80,833	128,450	255,314
.....1966	19,591	91,177	142,948	282,806
Quebec.....1965	158,996	853,898	1,311,746	2,616,761
.....1966	151,074	891,779	1,370,481	2,738,338
Ontario.....1965	189,239	1,102,276	1,554,190	3,171,774
.....1966	203,168	1,307,326	1,837,764	3,753,936
Manitoba.....1965	29,820	142,431	194,399	415,113
.....1966	32,181	170,247	231,421	497,554
Saskatchewan.....1965	34,880	182,669	258,827	564,983
.....1966	37,850	216,196	301,182	662,693
Alberta.....1965	58,591	333,813	509,543	1,093,666
.....1966	61,872	387,241	579,600	1,249,700
British Columbia, Yukon Territory and North-west Territories.....1965	64,985	421,545	589,980	1,268,487
.....1966	65,456	468,160	657,441	1,416,247
Totals.....1962	528,921	2,475,670	3,507,738	7,296,039
.....1963	523,909	2,560,877	3,736,494	7,716,011
.....1964	547,377	2,812,089	4,241,373	8,634,189
.....1965	593,093	3,275,806	4,764,920	9,867,919
.....1966	613,801	3,729,784	5,391,792	11,198,919
Employer				
Contractors.....1965	427,667	2,411,549	3,882,517	7,869,858
.....1966	438,899	2,728,828	4,387,059	8,902,473
Utilities.....1965	68,629	396,922	431,615	907,581
.....1966	72,098	456,377	490,624	1,036,757
Governments.....1965	62,721	290,735	216,517	634,533
.....1966	67,177	340,168	252,637	745,101
Others.....1965	34,076	176,600	234,271	455,947
.....1966	35,627	204,411	261,472	514,588

Subsection 2.—Contracts Awarded and Building Permits Issued

In this Subsection, statistics are given of work actually in sight either as contracts awarded or as building permits. These figures are related to those of work performed during the year only as far as the work thus provided for is completed and duly reported in the capital expenditure surveys. Further, values of contracts awarded, and especially of building permits, are estimates (more often under-estimates) of work to be done.

9.—Value of Construction Contracts Awarded, 1946-66

(SOURCE: *Southam Building Guide*)

NOTE.—Figures for the years 1926-45 are given in the corresponding table of the 1962 Year Book, p. 682.

Year	Value of Construction Contracts	Year	Value of Construction Contracts	Year	Value of Construction Contracts
	\$		\$		\$
1946.....	663,355,100	1953.....	2,017,060,700	1960.....	3,053,749,500
1947.....	718,137,100	1954.....	2,154,959,200	1961.....	3,220,937,300
1948.....	954,082,400	1955.....	3,183,592,000	1962.....	3,351,717,500
1949 ¹	1,143,547,300	1956.....	3,426,905,500	1963.....	3,685,634,300
1950.....	1,525,764,700	1957.....	2,894,168,100	1964.....	4,413,077,400
1951.....	2,295,499,200	1958.....	3,593,709,200	1965.....	5,243,664,500
1952.....	1,812,177,600	1959.....	3,219,073,300	1966.....	4,949,517,600

¹ Newfoundland included from Apr. 1, 1949.

10.—Value of Construction Contracts Awarded, by Province and Type of Construction, 1965 and 1966

(SOURCE: *Southam Building Guide*)

Province and Type of Construction	1965	1966	Type of Construction	1965	1966
	\$'000	\$'000		\$'000	\$'000
Newfoundland.....	65,402	136,500	Institutional	938,788	1,073,771
Prince Edward Island.....	6,899	9,699	Churches and religious services.....	43,860	38,559
Nova Scotia.....	90,921	120,995	Hospitals and medical services.....	153,252	132,993
New Brunswick.....	55,701	48,628	Welfare services.....	22,491	37,066
Quebec.....	1,817,832	1,057,345	Public buildings.....	141,064	97,601
Ontario.....	2,145,567	2,226,828	Schools and colleges.....	578,121	767,552
Manitoba.....	241,420	193,240			
Saskatchewan.....	246,619	263,518	Industrial	714,598	828,989
Alberta.....	360,798	366,152	Manufacturing and processing plants.....	514,841	696,577
British Columbia.....	712,505	526,613	Utilities.....	70,826	60,182
Totals	5,243,664	4,949,518	Other.....	128,931	72,230
Residential	1,519,739	1,409,964	Engineering	1,257,963	827,011
Apartments.....	692,745	492,079	Bridges and overpasses.....	102,660	62,656
Residences.....	826,994	917,885	Marine.....	53,453	60,313
Business	812,576	809,783	Waterworks and sewerage systems.....	195,684	160,877
Hotels, clubs and restaurants	100,778	60,931	Roads and airfields.....	443,225	356,651
Office buildings.....	260,972	223,142	Electric power.....	294,255	82,735
Motor vehicle services.....	29,303	32,116	Transportation.....	2,961	17,182
Stores (wholesale and retail)	207,055	161,454	Communications.....	9,196	3,124
Personal services.....	5,523	3,064	Gas and oil facilities (distribution).....	17,336	5,599
Miscellaneous business services.....	2,071	3,792	Tunnels and subways.....	63,425	44,141
Recreational (including theatres).....	120,279	206,432	Other.....	75,768	43,734
Warehouses and storage.....	86,595	118,852			

Building Permits.—The estimated value of proposed construction is indicated by the value of building permits issued. Figures of building permits issued are collected for more than 1,400 municipalities across the country and are available for the individual municipalities, for metropolitan areas, for provinces and for economic areas in Quebec, Ontario and Manitoba.

The total value of permits issued for construction work exceeded \$3,714,000,000 in 1966, a decrease of 2.5 p.c. from the 1965 record figure. Residential construction as a whole declined by 9.4 p.c., although residential repairs increased 5.1 p.c. Industrial construction increased 10.1 p.c., commercial construction decreased 5.9 p.c. and institutional and government construction was 8.7 p.c. higher, resulting in an over-all increase of 3.4 p.c. for non-residential construction. All provinces recorded decreases in 1966 except Ontario, which moved up 7.9 p.c., and Manitoba, which held steady. Table 11 shows the value of building permits issued in each of 50 municipalities in 1966 compared with 1965.

11.—Estimated Value of Proposed Construction as Indicated by Building Permits Issued in 50 Municipalities, 1965 and 1966

NOTE.—Comparable figures from 1956 are given in the corresponding table of previous Year Books beginning with the 1962 edition.

Province and Municipality	1965	1966	Province and Municipality	1965	1966
	\$'000	\$'000		\$'000	\$'000
Newfoundland—			Ontario—concluded		
St. John's.....	31,569	26,963	Port Arthur.....	9,787	10,324
Prince Edward Island—			Scarborough Township.....	92,270	88,093
Charlottetown.....	4,668	2,693	Toronto.....	212,184	217,546
Nova Scotia—			Toronto Township.....	64,092	70,142
Halifax.....	33,515	28,939	Windsor.....	26,590	55,146
New Brunswick—			York North Township.....	182,512	162,117
Fredericton.....	10,255	12,873	York Township.....	16,997	12,703
Moncton.....	12,158	8,507	Manitoba—		
Saint John.....	5,564	5,735	Fort Garry.....		
Quebec—			St. Boniface.....		
LaSalle.....	21,559	24,798	St. James.....	97,177	93,621
Montreal.....	300,553	155,662	Winnipeg.....		
Quebec.....	23,073	10,573	Saskatchewan—		
St. Laurent.....	24,744	17,988	Moose Jaw.....	5,778	4,865
Ste. Foy.....	22,416	15,705	Prince Albert.....	5,003	10,863
Sept Îles.....	3,613	10,303	Regina.....	50,669	39,279
Sherbrooke.....	17,856	10,707	Saskatoon.....	41,086	47,472
Trois-Rivières.....	7,691	7,760	Alberta—		
Ontario—			Calgary.....	129,028	114,295
Brampton.....	11,001	8,819	Edmonton.....	125,283	135,407
Burlington.....	27,131	27,597	Jasper Place.....		
Etobicoke Township.....	88,111	59,000	Lethbridge.....	7,505	4,006
Hamilton.....	61,969	58,271	Medicine Hat.....	3,769	3,107
Kitchener.....	33,253	33,848	Red Deer.....	7,023	7,990
London.....	52,846	48,970	British Columbia—		
London Township.....	1,676	1,103	Burnaby District.....	19,118	32,225
Nepean Township.....	17,294	20,296	Richmond Township.....	28,993	13,584
Oshawa.....	26,602	21,420	Surrey District.....	16,746	16,566
Ottawa.....	106,724	127,205	Vancouver.....	84,006	60,928
			Victoria.....	14,918	14,352

¹ Metropolitan Corporation of Greater Winnipeg.

² Jasper Place included with Edmonton following annexation.

Table 12 shows the value of building permits issued in 17 metropolitan areas across Canada. In 1966 the permits issued in these areas made up 65 p.c. of the total for Canada.

12.—Estimated Value of Building Permits Issued in Metropolitan Areas, 1965 and 1966

Metropolitan Area	1965	1966	Metropolitan Area	1965	1966
	\$'000	\$'000		\$'000	\$'000
St. John's ¹	31,569	26,963	Sudbury.....	12,617	12,615
Halifax.....	43,267	37,165	London.....	56,365	50,975
Saint John.....	10,845	11,547	Windsor.....	54,668	60,119
Quebec.....	86,343	63,931	Winnipeg.....	97,177	93,621
Montreal.....	625,884	486,671	Calgary.....	129,730	114,676
Ottawa-Hull.....	142,035	166,438	Edmonton.....	134,373	140,656
Toronto.....	736,990	720,825	Vancouver.....	215,408	210,245
Hamilton.....	103,227	100,988	Victoria.....	35,047	35,449
Kitchener.....	72,784	85,105			

¹ Although this is a metropolitan area, only St. John's proper is included in the building permits survey.

13.—Value of Building Permits Issued, by Province, 1965 and 1966 with Totals for 1962-66

NOTE.—Comparable figures from 1952 are given in the corresponding table of previous Year Books beginning with the 1957-58 edition.

Province and Year	Residential Construction			Non-residential Construction			Total
	New	Repair	Total	Industrial	Com- mercial	Institu- tional and Govern- ment	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....1965	13,255	884	14,139	1,579	11,606	12,776	40,100
.....1966	12,145	1,095	13,240	1,661	10,750	10,795	36,446
Prince Edward Island.....1965	1,400	101	1,501	297	1,547	4,473	7,811
.....1966	1,136	75	1,211	757	1,870	1,589	5,422
Nova Scotia.....1965	27,374	2,734	30,108	14,946	10,037	30,676	85,761
.....1966	23,286	1,768	25,054	8,022	17,679	27,337	78,091
New Brunswick.....1965	18,774	1,828	20,602	28,884	8,612	14,448	72,544
.....1966	13,568	1,970	15,538	4,105	9,642	16,642	45,922
Quebec.....1965	423,759	20,138	443,897	77,247	250,442	127,660	899,244
.....1966	358,895	20,413	379,308	80,286	176,893	105,395	741,884
Ontario.....1965	746,010	26,597	772,607	212,291	275,752	400,590	1,661,241
.....1966	697,819	30,218	728,037	281,534	330,479	452,802	1,792,851
Manitoba.....1965	54,643	2,753	57,396	8,083	31,073	25,655	122,200
.....1966	45,299	2,654	47,953	12,951	25,300	36,109	122,311
Saskatchewan.....1965	65,215	2,089	67,304	8,347	34,599	39,151	149,401
.....1966	51,732	1,831	53,563	16,269	39,663	34,067	143,561
Alberta.....1965	120,209	3,493	123,702	24,881	82,478	117,002	348,061
.....1966	109,531	3,454	112,985	24,729	49,196	143,366	330,271
British Columbia.....1965	215,773	9,740	225,513	53,769	76,699	67,231	423,211
.....1966	204,627	10,485	215,112	43,347	75,254	84,600	418,811
Totals.....1962	1,144,364	64,818	1,209,182	218,138	469,356	619,902	2,516,576
.....1963	1,389,923	72,243	1,462,166	281,048	460,122	619,890	2,823,220
.....1964	1,545,586	69,238	1,614,824	380,842	597,536	674,419	3,267,616
.....1965	1,686,412	70,357	1,756,769	430,324	782,845	839,662	3,809,641
.....1966	1,518,038	73,963	1,592,001	473,661	736,726	912,702	3,715,001

The indexes in Table 14 show price changes for materials and labour, the two most important elements affecting the cost of residential and non-residential construction. The impact of changes in other factors, such as productivity and profit margins, is not included.

14.—Price Index Numbers of Building Materials and Index Numbers of Wage Rates, 1957-66 (1949=100)

Year	Prices of Building Materials ¹		Wage Rates in Construction ²
	Residential	Non- residential	
1957.....	128.4	130.0	162.9
1958.....	127.3	129.8	173.6
1959.....	130.0	131.7	183.4
1960.....	129.2	132.3	195.5
1961.....	128.3	131.1	199.7
1962.....	129.7	131.9	209.7
1963.....	133.9	135.1	214.6
1964.....	142.5	139.6	224.5
1965.....	148.9	146.8	235.5
1966.....	154.4	151.0	254.2

¹ SOURCE: Prices Division, Dominion Bureau of Statistics; available monthly in *Prices and Price Indexes* (Catalogue No. 62-002). ² SOURCE: Prices Division, Dominion Bureau of Statistics; based on data from the Labour Standards Branch, Department of Labour.

Section 3.—Housing*

Subsection 1.—Government Aid to House-Building

Federal Assistance.—The role of the Federal Government in housing has expanded progressively since the introduction of the first continuing statute in 1935. Although the Government originally entered the housing field in 1918 when it made money available to the provinces for re-lending to municipalities for housing purposes, the first general piece of federal housing legislation was the Dominion Housing Act passed in 1935. This was followed by the National Housing Acts of 1938 and 1944, culminating in 1954 with the present National Housing Act, defined as "an Act to promote the construction of new houses, the repair and modernization of existing houses and the improvement of housing and living conditions". Central Mortgage and Housing Corporation (CMHC), a Crown agency incorporated by Act of Parliament in 1945, administers the National Housing Act and co-ordinates the activities of the Federal Government in housing. The Corporation has the authority and responsibility for a variety of functions affecting housing in its long-term outlook as well as in its immediate requirements. It is empowered to act as an insurer of mortgage loans, as a lender or investor of public funds, as a guarantor and as an owner of property and other assets. It also acts as a research agency in fields associated with housing and assists provinces and municipalities in many aspects of urban growth. In general, the Government, through the successive Housing Acts, has attempted to stimulate and supplement the market for housing rather than assume direct responsibilities that rightfully belong to other levels of government or that could be borne more effectively by private enterprise. In each case the aim has been to increase the flow of mortgage money and to encourage lenders to make loans on more favourable terms to prospective home owners.

The volume of house-building in Canada since 1935 has been spectacular. Close to half of the country's present stock of approximately 5,500,000 houses have been built since the first covering legislation was enacted; about one third of these were financed in one way or another under the Housing Acts.

Under the terms of the National Housing Act, 1954 and its subsequent amendments, the Federal Government is active in many ways.

Loan Insurance.—Insured mortgage loans may be made for both home-ownership and for rental housing. They are normally available from approved lenders to individual

* Prepared (August 1967) in the Information Division, Central Mortgage and Housing Corporation, Ottawa.

home-owner applicants, to builders constructing houses for sale or for rent and for some special groups, such as co-operative housing associations and farmers. Insured loans are also available for the purchase, improvement, refinancing or sale of existing home-ownership and rental housing in designated urban renewal areas. Loans for existing housing in other areas are available only to purchasers wishing to occupy and improve such dwellings.

The maximum interest rate on insured loans is governed by a formula which permits the rate to fluctuate in accordance with changing yields on long-term government bonds. Under this arrangement, introduced in November 1966, the rate is automatically reviewed each quarter to maintain its level at $1\frac{1}{2}$ p.c. above the bond yield. In March 1967, the rate was reduced from $7\frac{1}{4}$ p.c. to 7 p.c. but reverted to $7\frac{1}{4}$ p.c. in July. Lenders may charge less.

Upon application, the borrower pays CMHC a fee of \$35 per unit to help defray expenses incurred in the examination of plans and specifications, in the determination of lending values and in compliance inspections during construction. An approved lender requires evidence that a home owner or home purchaser is providing 5 p.c. of the value of the house from his own resources. For the home owner this equity may be in the form of cash or a combination of cash, land and labour; for the home purchaser it may be in cash or labour. The regulations require that gross debt service—the ratio of repayments of principal and interest plus municipal taxes to the income of the borrower—should not exceed 27 p.c., although instances involving higher ratios may be considered on their merits. The borrower pays an insurance fee which is added to the amount of the loan and is repaid over the term of the mortgage; the fee ranges from $1\frac{3}{4}$ p.c. to $2\frac{1}{2}$ p.c. of the loan, according to type of unit and time of mortgage advances.

Home-ownership loans may be 95 p.c. of the first \$13,000 of lending value and 70 p.c. of the remainder for new housing. Rental housing loans may be for 90 p.c. of lending value. For single-family houses the maximum loan is \$18,000 and for multiple-family dwellings \$12,000 per unit. Loans for existing home-ownership and rental housing in urban renewal areas may be for 85 p.c. of lending value, subject to the same maximum amounts as for new housing. Loans for existing houses outside urban renewal areas may be 95 p.c. of the lending value, up to a maximum amount of \$10,000. The repayment period may be up to 35 years for new home-ownership and rental housing and for existing home-owner dwellings outside urban renewal areas. A maximum period of 25 years applies to existing houses in renewal areas.

Direct Loans.—CMHC may make direct loans for both home-ownership and rental housing where, in the opinion of the Corporation, loans are not available through approved lenders. Loans are made to any eligible home-owner applicant but direct loans to builders are subject to a requirement that the houses be pre-sold to satisfactory purchasers. By the end of 1966, direct lending by the Corporation totalled approximately \$3,230,000,000. The amount that may be advanced for this purpose out of the Consolidated Revenue Fund is \$4,000,000,000.

CMHC, with Government approval by Order in Council, may make loans to non-profit corporations to assist in financing the construction of low-rental housing projects or in the purchase of existing buildings and their conversion into low-rental housing projects. In addition to self-contained units, developments undertaken may include hostel or dormitory accommodation for the elderly and low-income individuals. Loans may be up to a maximum of 90 p.c. of the lending value established by CMHC. The period for repayment may not exceed the useful life of the project and in any case may not be for more than 50 years. The interest rate is established by Order in Council. Plans and specifications for such projects must be approved by the Corporation as well as financing and operating arrangements.

Since December 1960, the National Housing Act has provided financial assistance for the elimination or prevention of water and soil pollution. CMHC is authorized to make a loan to a province, municipality or a municipal sewerage corporation for the

construction or expansion of a central plant for the treatment and disposal of sewage wastes and the construction of one or more trunk collector sewers. The loan may not exceed two thirds of the cost of the project and the maximum repayment term is 50 years from date of completion. The interest rate is prescribed by the Governor in Council. The agreement covering the project contains a condition whereby 25 p.c. of the loan principal and 25 p.c. of the accrued interest will be forgiven for projects completed to the satisfaction of CMHC on or before Mar. 31, 1970. Where construction is not completed before that date, 25 p.c. of the loan advanced or warrantable by construction progress at that date, plus 25 p.c. of the accrued interest on advances, may be forgiven.

Long-term loans are available to a province or its agency, a municipality or its agency, a hospital, a school board, a university or college, a co-operative association or a charitable corporation, for the purpose of assisting in the construction of a student housing project. In all cases the government of the province concerned must approve the loan. CMHC may lend up to 90 p.c. of the project cost, subject to maximum amounts as follows: houses \$18,000; self-contained apartments \$12,000 per unit; and hostels \$7,000 per person accommodated. The term of the loan may not exceed 50 years. The interest rate is prescribed by the Governor in Council.

Guarantees.—CMHC is authorized to give a limited guarantee to banks or approved instalment credit agencies in return for an insurance fee paid by the borrower on loans made for additions, repairs and alterations to existing houses and apartments. A home improvement loan and the balance owing on any existing NHA home improvement loan on the property may not exceed \$4,000 for a one-family dwelling or \$4,000 for the first unit of a duplex, semi-detached or multiple-family dwelling, plus \$1,500 for each additional unit. Loans are repayable in monthly instalments over a period not exceeding 10 years at a rate of interest similar to that applicable to home-ownership loans.

Public Housing.—Under the National Housing Act and complementary provincial legislation, the Federal Government and the government of a province may enter into a partnership agreement to build rental housing for families and individuals of low income or purchase and rehabilitate existing housing for this purpose. Projects may include hostel or dormitory accommodation in addition to self-contained units. The Federal Government pays up to 75 p.c. of the capital costs and the provincial government the remainder, although the latter may call upon the municipality concerned to bear a portion of the provincial share. Rents for units in federal-provincial projects are related to the tenant's family income and size of family and operating deficits are shared on the same contractual basis as the capital costs. The Federal Government and the government of a province may also enter into an agreement to provide for a land assembly project which involves the development of raw land for housing purposes. Such projects are financed in the same manner as federal-provincial housing projects.

As an alternative method of producing public housing, the CMHC is empowered to make long-term loans to a province, or to a municipality or public housing agency with the approval of the province, for the provision of housing accommodation. Projects may consist of new construction or existing buildings and include dormitory and hostel accommodation as well as self-contained family units. Loans may be up to 90 p.c. of the total cost as determined by CMHC and for a term as long as 50 years but not in excess of the useful life of the development. The maximum that may be borrowed for a house is \$18,000, for a fully serviced apartment \$12,000, and for hostels or dormitories \$7,000 for each person accommodated. The interest rate is set by the Governor in Council.

Federal grants may be made covering up to 50 p.c. of losses incurred in the operation of public housing projects, for a period of up to 50 years but not exceeding the useful life of the project. Loans may be made to assist proponents of public housing projects to acquire land for future projects, the maximum loan being 90 p.c. of the cost of acquiring and servicing the property.

Urban Renewal.—Federal grants and loans are available under the Act to assist provinces and municipalities undertaking programs of urban renewal. CMHC, with Federal Government approval, may arrange with a municipality to undertake a study to identify blighted areas, determine housing requirements and provide data upon which an orderly program of conservation, rehabilitation and redevelopment can be based. The federal contribution may be as much as 75 p.c. of the cost. The legislation also authorizes federal contributions equal to one half of the costs of preparing an urban renewal scheme setting out proposals for urban renewal action, a similar cost-sharing arrangement for the implementation of a scheme, and loans up to two thirds of the provincial or municipal share of the cost of carrying out an urban renewal scheme. Loans may be for 15 years at an interest rate prescribed by the Governor in Council. To encourage the improvement and conservation of housing meeting minimum standards of construction, loans are available for the sale, purchase or refinancing of existing housing in urban renewal areas not designated for demolition.

CMHC Building.—The Corporation may construct and administer housing and certain other buildings on its own account and for other government departments and agencies. Its responsibilities include the provision of architectural and engineering designs, the calling of public tenders and the administration of construction contracts—including any necessary on-site surveying and engineering. On such contracts the Corporation carries out full architectural and engineering inspections.

Research.—CMHC is concerned with building technology in the formulation of standards for housing construction, in the use of suitable materials and in the development of new building techniques. The Corporation has no laboratory facilities but has direct experience of performance in the field and seeks the advice of specialists in various agencies and departments of the Federal Government in such matters. Research into the factors affecting housing is concerned with the measurement of the demand for new housing, the volume of new housing built and the supply of mortgage money for house construction. The Corporation also co-ordinates and publishes statistical information on housing. Funds provided under the National Housing Act support the activities of the Canadian Housing Design Council, the Community Planning Association of Canada and the Canadian Council on Urban and Regional Research.

Other Federal Legislation.—The Farm Credit Act, 1959 provides for federal long-term loan assistance for housing as well as for other farm purposes (see pp. 485-486); the Veterans' Land Act, 1942 provides a form of loan and grant assistance to veterans for housing and other purposes (see p. 352); and the Farm Improvement Loans Act, 194 (see pp. 483-484) provides for guarantees for intermediate- and short-term loans made by approved lending agencies to farmers for housing and other purposes. These three statutes are concerned only incidentally with housing.

Provincial Assistance.—All provinces have complementary legislation providing for joint federal-provincial housing and land assembly projects and, in addition, most provinces have enacted separate legislation with respect to housing. Details of such assistance may be secured from the provincial government departments listed in the Directory of Sources of Official Information included in Chapter XXVII under the heading of "Housing".

Subsection 2.—Housing Activities in 1966-67

Housing starts declined sharply in 1966, numbering 134,474 dwelling units compared with 166,565 in 1965, a decrease of 19.3 p.c. However, completions were higher in the later year, increasing from 153,037 units in 1965 to 162,192, with the result that there was a marked drop in the inventory of dwellings under construction from 119,854 units at the beginning of the year to 88,621 units at the year-end. In terms of new investment housing construction represented expenditures of \$2,181,000,000 in 1966, a 2.3-p.c. increase over the previous year.

Although the general trend in housing starts was downward throughout 1966, the decline was somewhat uneven. In the first few months there was a marked but short-lived increase in activity, particularly in starts of apartment dwellings in Toronto; thereafter, starts dropped off until the autumn. Although the \$500 bonus offered under the Federal Government's winter house-building incentive program was not continued for the 1966-67 season, a marked up-turn in starts of single detached houses took place in September and October, resulting from the stimulus of a direct lending program by the Central Mortgage and Housing Corporation that started a month or so earlier than similar programs in the three preceding years.

The immediate cause of the decline in housing starts in 1966 was a large reduction in mortgage lending activity by the institutional lenders. The volume of starts undertaken with assistance from private sources for both NHA and conventional-type loans dropped from 112,841 in 1965 to 67,646 in 1966; the effects of this drop were partially offset by an increase in direct loan activity by CMHC which financed 37,483 starts in 1966 against 30,091 in 1965.

The increase in direct loan activity coupled with the re-entry of the chartered banks into the mortgage market appears to have had a salutary effect on the situation. For the first six months of 1967, total applications for NHA loans by approved lenders and CMHC related to 50,065 units, more than double the corresponding 22,610 unit total for 1966. Of these, CMHC loans accounted for 32,216 units, 168.3 p.c. more than the year before, and the remaining 17,849 related to the approved lender activity, which was 68.3 p.c. above 1966.

15.—Dwelling Units Started and Completed, by Type of Financing, 1957-66 and by Region, 1965 and 1966

(Exclusive of the Yukon and Northwest Territories)

Year and Region	Dwelling Units Started					Dwelling Units Completed
	National Housing Act		Conven- tional Institutional Loans	All Other Financing	Total	
	CMHC Loans	Approved Lenders Loans				
	No.	No.	No.	No.	No.	No.
1957.....	22,331	23,971	32,866	43,172	122,340	117,283
1958.....	35,781	44,533	42,929	41,389	164,632	146,686
1959.....	35,229	26,596	45,198	34,322	141,345	145,671
1960.....	13,788	18,923	40,116	36,031	108,858	123,757
1961.....	23,852	35,334	38,316	28,075	125,577	115,608
1962.....	15,479 ^r	31,790	54,214	28,612 ^r	130,095	126,682
1963.....	21,213	28,505	71,983	26,923	148,624	128,191
1964.....	28,728	26,118	85,090	25,722	165,658	150,963
1965.....	30,091	24,172	88,669	23,633	166,565	153,037
1966.....	37,483	12,438	55,208	29,345	134,474	162,192
1965						
Atlantic Provinces.....	1,071	380	4,027	3,466	8,944	8,953
Quebec.....	9,756	1,958	28,068	4,655	44,437	42,565
Ontario.....	7,938	18,548	34,519	5,762	66,767	56,568
Prairie Provinces.....	7,637	2,167	8,937	6,278	25,019	24,766
British Columbia.....	3,689	1,119	13,118	3,472	21,398	20,185
1966						
Atlantic Provinces.....	1,519	188	2,964	3,345	8,016	8,466
Quebec.....	11,636	810	17,893	5,572	35,911	40,412
Ontario.....	12,112	10,180	19,746	10,317	52,355	68,407
Prairie Provinces.....	7,410	936	5,942	6,151	20,439	22,963
British Columbia.....	4,806	324	8,663	3,960	17,753	21,944

16.—Dwelling Units Started in Metropolitan and Major Urban Areas, 1965 and 1966

Area	Population (Census 1966)	Dwelling Units Started				
		1965	1966			
			Total	Single Detached	Semi- detached and Duplex	Row and Apartment
	'000	No.	No.	No.	No.	No.
Metropolitan Areas—						
Calgary.....	331	4,178	3,304	2,112	268	924
Edmonton.....	401	4,581	3,746	2,123	74	1,549
Halifax.....	198	1,655	1,133	376	118	639
Hamilton.....	449	4,519	4,201	2,162	98	1,941
Kitchener.....	192	2,820	2,432	1,244	68	1,120
London.....	207	2,466	1,536	991	60	885
Montreal.....	2,437	29,182	24,531	6,707	1,292	16,532
Ottawa-Hull.....	495	5,051	4,436	1,670	271	2,495
Quebec.....	413	4,228	3,373	2,178	98	1,097
Regina.....	131	1,688	977	670	62	245
Saint John.....	101	736	372	272	30	70
St. John's.....	101	556	1,023	297	226	500
Saskatoon.....	116	1,784	1,275	780	176	319
Sudbury.....	117	309	394	262	28	104
Toronto.....	2,159	32,506	22,155	7,246	1,732	13,177
Vancouver.....	832	11,684	9,138	4,325	140	4,673
Victoria.....	174	1,610	1,613	714	28	871
Windsor.....	212	1,523	1,365	745	10	610
Winnipeg.....	509	3,808	2,992	1,435	168	1,389
Totals, Metropolitan Areas.....	9,635	114,974	90,396	36,309	4,947	49,140
Major Urban Areas—						
Brampton.....	45	1	955	536	185	234
Brantford.....	62	613	431	259	10	162
Chicoutimi-Jonquière.....	109	355	254	220	4	30
Drummondville.....	43	408	200	149	14	37
Fort William-Port Arthur.....	98	525	476	448	28	—
Guelph.....	51	586	504	320	38	146
Kingston.....	71	1,203	651	325	55	271
Moncton.....	60	464	406	248	26	132
Niagara Falls.....	61	292	399	277	2	120
Oshawa.....	100	2,164	991	599	214	178
Peterborough.....	56	298	247	223	10	14
St. Catharines.....	109	1,308	1,060	781	20	259
St. Jean.....	43	130	203	137	30	36
St. Jérôme.....	33	1	204	162	28	14
Sarnia.....	67	565	693	414	—	279
Sault Ste. Marie.....	75	325	414	323	14	77
Shawinigan.....	65	61	50	45	2	3
Sherbrooke.....	80	713	413	214	54	145
Sydney-Glace Bay.....	106	265	198	166	—	32
Timmins.....	40	111	69	67	2	—
Trois-Rivières.....	95	482	363	324	22	17
Valleyfield.....	34	194	302	176	52	74
Welland.....	59	1	287	265	4	18
Totals, Major Urban Areas.....	1,562	11,062	9,770	6,678	814	2,278
All other.....	8,775	40,529	34,308	27,655	1,520	5,133
Canada².....	19,972	166,565	134,474	70,642	7,281	56,551

¹ Classified as a Major Urban Area in 1966 Census area definitions.
Territories.

² Excludes the Yukon and Northwest Territories.

Operations under the National Housing Act.—NHA mortgage loans amounting to \$661,000,000 were approved in 1966 for the provision of 47,166 dwellings, compared with loans of \$763,700,000 approved for 58,826 dwellings in 1965. Direct lending by CMHC surpassed the volume of insured loans by approved lenders operating under the Act; loans by the federal agency had a value of \$526,000,000, against \$455,000,000 in 1965. Loans made available through private lenders in 1966 amounted to \$191,300,000 for 14,567 dwellings. Trust companies remained the largest source of private funds approving loans for 8,108 units; insurance company loans represented 6,150 dwellings.

17.—Mortgage Loans Approved by Lending Institutions, by Type of Property and of Loan, 1957-66

Year	New Housing		Existing Houses	Other Property	Total
	NHA Loans	Conventional Loans	Conventional Loans	Conventional Loans	
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1957.....	278	239	150	104	771
1958.....	519	291	208	174	1,192
1959.....	308	343	216	216	1,083
1960.....	242	307	221	263	1,033
1961.....	453	333	300	298	1,384
1962.....	412	450	358	311	1,531
1963.....	385	652	430	373	1,840
1964.....	353	512	640	507	2,312
1965.....	320	902	749	581	2,552
1966.....	191	574	471	382	1,618

Borrower and House Characteristics.—The average income of purchasers of NHA-financed houses in 1966 was \$7,287 or, in terms of family income, \$7,918. These incomes were 9.5 p.c. higher than the corresponding averages for purchasers in 1965 and appeared to be in line with the general increase in incomes in 1966. As in previous years, relatively few purchasers of NHA houses were drawn from the lower third of the range of family incomes. In 1966 only 4.8 p.c. of the borrowers had family incomes of less than \$5,000 compared with 9.0 p.c. in 1965.

The average age of purchasers of NHA houses was about 35 years in 1966, little changed from earlier years. As in 1965, just over one third of the purchasers had two or more children and 31.8 p.c. had previously been home owners.

The average price of NHA-financed houses purchased in 1966, including many started in the previous year, was \$17,945. On these houses, purchasers provided down-payments averaging \$3,544 and undertook monthly payments of \$129.70 for mortgage principal, interest and taxes; compared with 1965, these represented increases of 8.6 p.c. in price, 18.2 p.c. in down-payment and 9.4 p.c. in monthly charges. The proportion of monthly charges to income remained unchanged at 21.4 p.c.

As in other years, most of the NHA-financed houses purchased in 1966 were bungalows, which type represented 72.0 p.c. of the total compared with 75.0 p.c. in 1965. The proportion of split-level dwellings increased from 17.0 p.c. to 17.9 p.c. and that of two-storey dwellings from 7.1 p.c. to 9.8 p.c. Of these dwellings, about 80 p.c. had three bedrooms and the remainder had four or more.

Loans to Non-profit Corporations and Limited-Dividend Companies.—In 1966, 73 loans in an aggregate amount of \$20,900,000 were approved to non-profit corporations to assist in the construction of 1,612 self-contained units of low-rental housing and hostel accommodation for 1,803 persons. With the exception of a small number for special groups, all loans were for projects for elderly persons.

Home Improvement Loans.—There was a slight decline in the volume but a slight increase in the value of NHA-guaranteed bank loans for home improvement purposes in 1966. Loan approvals during the year numbered 18,042 for \$35,900,000 as against 18,846 and a value of \$35,600,000 in 1965. At the end of 1966, the outstanding debt on such loans was reported by the banks at \$75,300,000 compared with \$73,200,000 a year earlier. The Home Improvement Loan Insurance Fund, comprised of fees received from borrowers, increased by \$156,000 during the year to reach \$3,200,000 at Dec. 31, 1966.

Loans for Student Housing Projects.—Loans totalling \$49,900,000 were approved in 1966 for 30 student housing projects providing accommodation for 7,670 students, an

increase over 1965 activity when assistance was authorized for developments housing 4,547 students. Loans approved in 1966 were distributed provincially as follows:—

Province	Loans		Students to be Accommodated
	No.	Amount \$'000	
Newfoundland.....	2	4,394	827
Nova Scotia.....	4	4,878	707
New Brunswick.....	1	280	40
Quebec.....	4	4,285	764
Ontario.....	12	24,103	4,085
Saskatchewan.....	1	362	132
Alberta.....	2	5,165	497
British Columbia.....	4	6,464	618

From December 1960, when university housing loans were first authorized, to December 1966, 142 loans totalling \$179,000,000 were approved for the construction of residences for 33,909 students. The statutory limit that may be advanced for such loans is \$350,000,000.

Loans for Municipal Sewage-Treatment Projects.—During 1966, 184 loans amounting to over \$35,700,000 were authorized to assist 141 municipalities to undertake sewage-treatment projects, distributed provincially as follows:—

Province	Loans		Province	Loans	
	No.	Amount \$'000		No.	Amount \$'000
Newfoundland.....	6	513	Ontario.....	53	17,482
Prince Edward Island....	2	67	Manitoba.....	15	1,263
Nova Scotia.....	3	344	Saskatchewan.....	25	993
New Brunswick.....	4	470	Alberta.....	21	706
Quebec.....	41	9,926	British Columbia.....	14	3,966

From December 1960, when assistance for sewage-treatment projects was authorized, to December 1966, 1,116 loans totalling \$208,000,000 were approved to 763 municipalities.

Mortgage Marketing.—Sales of NHA-insured mortgages amounted to \$88,300,000 in 1966 compared with \$136,400,000 in 1965. Because of heavy pressure on the market for long-term funds, auctions were not held by the Corporation during 1966; total sales by the Corporation to the end of 1965 totalled \$308,600,000. Under Sect. 11 of the National Housing Act, holders of NHA mortgages may be provided with a source of short-term credit if required; during 1966 two short-term loans were made. Repayments during the year totalled \$18,000,000 and the balance outstanding at year-end was \$10,600,000.

Urban Renewal.—Activity under the urban renewal provisions of the National Housing Act was at an all-time high in 1966. During the year the Corporation approved loans totalling \$697,202 to 61 municipalities to undertake urban renewal studies: two in Nova Scotia, one in New Brunswick, 24 in Quebec, 12 in Ontario, three in Manitoba, 11 in Saskatchewan, seven in Alberta and one in British Columbia. Included was a grant of \$120,000 to Quebec to assist in identifying blighted areas in 18 municipalities. In 1965, 21 grants totalling \$324,470 were approved for urban renewal studies.

Federal contributions totalling \$394,770 were approved during 1966 for the preparation of 24 urban renewal schemes, including initial amounts for the communities of Sydney in Nova Scotia; Quebec City, Ste. Agathe des Monts, St. Jérôme, Victoriaville and Westmount in Quebec; Fort William, Neelon-Garson Township (Sudbury area), Newmarket, Niagara Falls and Toronto in Ontario; North Battleford and La Ronge in Saskatchewan; Edmonton, High River and Medicine Hat in Alberta; and Alert Bay, Ladner, Port Coquitlam and Victoria in British Columbia. In the implementation of urban renewal schemes during 1966, the federal contribution was \$13,335,000 compared with \$3,209,000 in 1965. This included initial grants for Montreal and Trois-Rivières in Quebec; Ottawa and

Toronto in Ontario; Calgary in Alberta; and Burnaby, Natal, Trail, Vancouver and Victoria in British Columbia. In addition, loans totalling \$1,100,000 were made to the cities of Calgary, Trail and Victoria to assist further in the implementation of these schemes; 1966 was the first year in which such loans were made.

Public Housing.—During 1966, approval was given for federal-provincial housing projects located in Corner Brook in Newfoundland; Sydney and Yarmouth in Nova Scotia; Winnipeg in Manitoba; Melfort and Prince Albert in Saskatchewan; and Drumheller, Fort McMurray and Peace River in Alberta. These will provide 604 dwelling units. During the previous year, 324 units in four projects were approved. To the end of 1966, approval had been given for 13,088 rental units under the federal-provincial partnership arrangement. Of these, 10,474 are subsidized at rents related to the income of the tenants and the remainder are leased at fixed rents related to dwelling size and at levels sufficient to recover capital costs and meet operating expenses. The Federal Government's 75-p.c. share of the subsidized units, approved in 1965 but paid in 1966, was \$2,100,000.

Under arrangements with the Provinces of Nova Scotia and Prince Edward Island and their housing commissions, assistance may be given under the National Housing Act for co-operative house-building. In 1966, projects were approved for 66 units in Nova Scotia, the total approved in that province since the inception of the program in 1953 being 1,331 units. Since 1960, 119 units have been approved under similar arrangements in Prince Edward Island. In April 1965, agreement was reached between the Federal and Saskatchewan Governments for a joint program to provide housing for metis and enfranchised Indians in sparsely settled regions of northern Saskatchewan. During 1966, 24 units were approved, bringing the total to 36 located at Air Ronge, Beauval, Buffalo Narrows, Cumberland House, Île à la Crosse and La Ronge.

Loan assisted projects numbering 70 valued at \$59,200,000 were approved to Ontario Housing Corporation for 4,583 units. The projects are located in the municipalities of Arnprior, Barrie, Belleville, Brantford, Chelmsford, Galt, Guelph, Gore Bay, Hamilton, Kingston, Kitchener, Lindsay, Listowel, Metropolitan Toronto, Niagara Falls, Oshawa, Ottawa, Penetanguishene, Peterborough, Prescott, Owen Sound, Richmond Hill, Port Arthur, St. Thomas, St. Catharines, Sault Ste. Marie, Sudbury, Teck Township, Waterloo and Windsor. In 1965, 47 such loans were approved at a cost of \$36,100,000, providing 2,919 units. The estimated annual 50-p.c. federal contribution toward operating losses for such projects was \$1,400,000 in 1966. In the two and a half years that it has been in force, this legislation has resulted in the approval of 117 projects for 7,502 units.

Land Assembly.—Eight land assembly projects for 1,792 residential building lots were approved in 1966 under federal-provincial partnership agreements as follows: Marystown, Nfld. (237 lots), Amherst, N.S. (100 lots), Nackawic, N.B. (671 lots), Brockville, Ont. (324 lots), Hamilton, Ont. (213 lots), Longlac, Ont. (84 lots), Shaunavon, Sask. (89 lots), and Unity, Sask. (74 lots). In addition, the second phase of a project in St. John's, Nfld. (327 lots), was approved. During 1965, 662 lots were approved for development, the total from the inception of the program in 1948 to 1966 being 21,048 lots. Of the latter, 13,818 have been placed in a sales position and 12,667 have been sold.

Subsection 3.—Housing Statistics of the Census

Data collected at the 1966 Census relating to tenure and structural type of dwellings in Canada were not available in time to be summarized in this edition of the Year Book. These data, when published, will include cross-classifications as to household composition as well as characteristics relating to the household in Vol. II of the 1966 Census (Catalogue Nos. 93-601 to 93-608) and in the Census Special Series report No. 99-602. Brief data on housing characteristics for Canada in 1951 and 1961 are given in the 1967 Year Book at pp. 728-729, and detailed information may be found in Vol. II (Part 2) of the 1961 Census (Catalogue Nos. 93-523 to 93-534).

CHAPTER XVIII.—LABOUR*

CONSPECTUS

	PAGE		PAGE
SECTION 1. THE GOVERNMENT IN RELATION TO LABOUR.....	746	Subsection 3. Estimates of Employment...	773
Subsection 1. The Canada Department of Labour and the Federal Department of Manpower and Immigration.....	746	Subsection 4. Estimates of Labour Income.	773
Subsection 2. Federal Labour Legislation and Provincial Labour Legislation.....	749	SECTION 4. WAGE RATES, HOURS OF LABOUR AND OTHER WORKING CONDITIONS.....	775
SECTION 2. THE LABOUR FORCE.....	755	SECTION 5. UNEMPLOYMENT INSURANCE.....	781
SECTION 3. EMPLOYMENT STATISTICS.....	761	SECTION 6. EMPLOYMENT INJURIES AND WORKMEN'S COMPENSATION.....	785
Subsection 1. Statistics of Employment, Earnings and Hours.....	761	SECTION 7. ORGANIZED LABOUR IN CANADA...	787
Subsection 2. Earnings and Hours of Work in Manufacturing.....	769	Subsection 1. Union Membership.....	787
		Subsection 2. Strikes and Lockouts.....	789

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Section 1.—The Government in Relation to Labour

Subsection 1.—The Canada Department of Labour and the Federal Department of Manpower and Immigration

The Canada Department of Labour

The Canada Department of Labour was established in 1900 under the Conciliation Act which provided machinery to aid in preventing and settling labour disputes and required the Department to collect, compile and publish statistical and other relevant information. The Department also assumed the administration of the Fair Wages Policy adopted in the same year for the protection of workmen employed in the execution of Federal Government contracts and on works aided by grants from public funds. Since that time the Department has been charged with the administration of new legislation and has taken on new functions. Its work fell broadly into two main areas—industrial relations and manpower supply—until Jan. 1, 1966, when all manpower activities were transferred to a new Department of Manpower and Immigration (see p. 747).

The legislation now administered by the Canada Department of Labour in the industrial relations area applies to employers, workers and trade unions under federal jurisdiction. The Department is responsible for conciliation procedures in industrial disputes, the investigation of complaints of unfair labour practices, refusals to bargain and violations of legislation, the processing of applications for the certification and de-certification of trade unions and the conducting of representation votes. It determines wage rates and hours of work in Federal Government contracts for construction or supplies, and promotes joint labour-management consultation. It also administers legislation to prevent discrimination in employment based on race, religion, colour or national origin and to provide for equal pay for female employees. In 1965, the Canada Labour (Standards) Code became law. The Code establishes minimum standards of wages, hours of work, vacations with pay and paid general holidays in industries under federal

* Except as otherwise noted, this Chapter has been revised under the direction of the Deputy Minister of the Canada Department of Labour, Ottawa.

jurisdiction. To ensure safe working conditions for all employees in industries and undertakings coming under federal jurisdiction, the Canada Labour (Safety) Code was passed by Parliament at the end of 1966 and was proclaimed in effect Jan. 1, 1968.

Since 1947, the Canada Department of Labour has encouraged and assisted in the establishment of labour-management committees in industry and services. With considerable expansion in this work in 1966, the service was reorganized and became a separate Branch of the Department, namely, the Labour-Management Consultation Branch. There are now 2,237 active committees whose efforts are directed to such subjects as improving work methods, safety, operating efficiency, plant maintenance, eliminating waste, maintaining good morale, promoting educational and training activities and joint consultation on operational changes brought about by technological change.

Research, involving regular and special surveys and analyses of economic and social trends affecting the labour force, is an important part of the Department's work carried out by the Economics and Research Branch. It studies wages and working conditions, union organization, collective bargaining, industrial relations, labour standards and safety. Through the Women's Bureau, it investigates the problems of women in the labour force. It operates a plan of workmen's compensation for seamen on Canadian ships and arranges workmen's compensation for Federal Government employees. In addition to the publication of statistical reports and the results of research studies, the Department publishes the monthly *Labour Gazette*, maintains records of labour legislation in the provinces and in other countries and operates a labour lending library. It provides liaison between the International Labour Organization and the federal and provincial governments and is responsible for the administration of Canadian Government annuities.

The Department of Manpower and Immigration*

This Department was constituted in January 1966 by the Government Organization Act (RSC 1966, c. 25), which was proclaimed effective on Oct. 1, 1966, under the Minister of Manpower and Immigration. Its immigration responsibilities were, until the latter date, part of the Department of Citizenship and Immigration which was renamed the Department of Manpower and Immigration, and most of the other components of the new Department were under the jurisdiction of the Department of Labour.

The Department of Manpower and Immigration is composed of two operational Divisions and four support services. The functions of the Canada Immigration Division, which administers the Immigration Act and Regulations, are outlined in the Immigration and Citizenship Chapter at pp. 230-231. The Canada Manpower Division, outlined below is responsible for: the counselling and effective placement of workers; the recruitment and placement of workers to meet industry's requirements; the occupational training of adults; manpower mobility; creation of seasonal demand for labour to stabilize employment; community adjustment of migrants and immigrants; and the rehabilitation of vocationally handicapped workers. The Department also has a service which is responsible for the development and evaluation of departmental programs; research; the operation of pilot projects in training and other areas; legislation and legal services; and emergency manpower planning at the national level. Other support services are Financial and Management, Personnel, and Information.

Canada Manpower Division.—The *Program Support Branch* provides an advisory and consultative service to the Assistant Deputy Minister—Manpower and to the regional manpower officials on matters relating to the Occupational Training for Adults Program, which provides for the training and retraining of adults to meet labour market requirements, and the Manpower Mobility Program, which assists individuals to find jobs in these communities, to move their families and to buy or sell a home. The administration of these programs takes place on a regional basis and through approximately 250 local

*Prepared by the Information Service, Department of Manpower and Immigration, Ottawa.

Canada Manpower Centres. The Branch is responsible for inter-regional co-ordination and for headquarters activities relating to the development of standards, curricula and training aids techniques and also for operational guidelines and policy relating to the successful implementation of Branch programs and manpower development generally.

The *Counselling Support Branch* has responsibility in seven major areas—family relocation, immigrants and migrants, settlement, counsellor development and training women's employment, youth, and co-ordination of university training for manpower counsellors. These services are intended to ensure that manpower resources are properly utilized.

The *Employment Stabilization Branch* administers the Municipal Winter Works Incentive Program under which the Federal Government provides an incentive to municipalities to undertake public works during the winter by sharing in the payroll costs incurred on approved projects. All provinces and territories and a number of Indian bands participated in the program during the period Nov. 1, 1966 to Apr. 30, 1967. In general, the Federal Government paid 50 p.c. of the direct payroll costs of approved projects but municipalities in certain areas of high winter unemployment received 60 p.c.; total federal expenditure for the 1966-67 period approximated \$37,000,000 on 5,296 project applications accepted from 2,304 local authorities. Work was provided on-site for an estimated 122,413 men for a total of 5,766,540 man-days. A Government-sponsored winter employment campaign was conducted again during 1966-67.

Under the Supplementary Federal Government Winter Construction Program introduced in 1963-64, federal departments brought forward construction projects for which funds had not been provided in current departmental estimates and the funds were then made available from a miscellaneous vote. This program was discontinued in 1966-67 because of the increase in the volume of construction planned for the year but the Cabinet directed that, wherever possible, construction projects be deferred to the winter season to ensure that at least half of the total program be carried out from November to April inclusive. The total cost of the construction program for 1966-67 was approximately \$294,500,000, of which 54 p.c. was spent between Nov. 1 and Apr. 30.

The main functions of the *Technical Services Branch* are to develop, implement and co-ordinate policies and techniques relating to occupational identification, description and classification, and job analysis and specification; to develop psychological, aptitude and achievement tests for use in counselling and selection of persons for jobs; to develop policies and techniques for use in the selection of workers in large-scale operations; and to design information retrieval capabilities to facilitate the matching of job applicants with job vacancies from national inventories, and for reporting of operational data.

The *Operational Support Branch* is concerned with programs related to manpower demands; with the effective development and utilization of manpower for all sectors of the Canadian economy; and with the development of constructive solutions to manpower problems created by technological and economic changes. To accomplish its objective the Branch stimulates and encourages advance manpower planning through consultation with senior officials in industry; with industrial, trade and employee associations; and with other departments of the Federal Government and provincial and municipal governments. The Branch also provides expertise on the day-to-day operation of the labour market and is a clearing house for proposals to facilitate the effective placement of workers. It is able to assist in the advance identification of changes affecting the functioning of the labour market and participates in the planning of orderly and effective movement and readjustment of workers in both the private and public sectors.

The *Program Development Service* has responsibility for departmental functions related to research, statistical services, manpower information and labour-market analysis, experimental projects and legislation. Its basic purpose is to assist the two operating Divisions of the Department in evaluating existing programs and developing new or revising existing programs to ensure the most effective means of supporting department policy both in the field and in the headquarters offices of the Department.

The *Vocational Rehabilitation Branch*, through the Regional Manpower Offices, administers the Vocational Rehabilitation of Disabled Persons Act, 1961, under which the Federal Government shares equally with participating provinces in the costs of vocational rehabilitation services to handicapped persons. Staff training is arranged by the Branch and federal financial assistance is given to participating provinces for the training of their rehabilitation staffs. Research projects in the fields of vocational rehabilitation and disadvantaged workers are financed by federal funds when conducted by a federal agency. University research projects in the same areas may be assisted through the Manpower and Immigration Research Grants Program or, if carried out by a participating province, on a cost-sharing basis under the Federal-Provincial Vocational Rehabilitation Program. The Branch maintains liaison with rehabilitation authorities in other countries and with international organizations. The Branch, through its Section on Older Workers, studies developments in the field of aging which relate to employment, both in Canada and in other countries, and carries out a continuing educational program designed to create a more favourable employment climate for middle-aged and older workers.

Subsection 2.—Federal Labour Legislation and Provincial Labour Legislation

Federal Labour Legislation*

Fair Wages Policy.—The Fair Wages Policy applying to all Federal Government contracts was first set forth in a Resolution of the House of Commons (1900) and later incorporated in an Order in Council and amended from time to time. Wages and hours on contracts for construction are now regulated by the Fair Wages and Hours of Labour Act (RSC 1952, c. 108), as amended by an Act to amend the Fair Wages and Hours of Labour Act, effective Apr. 1, 1967 (RSC 1967, c. 24), and by the Fair Wages and Hours of Labour Regulations. Hours of work on construction contracts are limited to eight a day and 48 a week, except in exceptional circumstances approved by the Minister or in such cases as the Governor in Council may prescribe; hours worked in excess of eight in a day or 40 in a week must be paid for at an overtime rate at least equal to one and one half times the rates required under the contract; wages to be paid are those current for the type of work in the district or, if there are no current rates, fair and reasonable rates as determined by the Minister of Labour; in no case shall the rates be less than the minimum hourly rate prescribed by or pursuant to the Canada Labour (Standards) Code.

Wages and hours of work on contracts for equipment and supplies are regulated by Order in Council PC 1954-2029. The hours of such work must be those fixed by the custom of the trade in the district where the work is performed, or fair and reasonable hours. The wages must be current or fair and reasonable but in no event shall they be less than those established by statute or regulation of the province in which the work is being performed.

The Fair Wages and Hours of Labour Regulations and Order in Council PC 1954-2029 both contain a clause prohibiting discrimination against any person in matters of employment because of that person's race, national origin, colour or religion, or because he has made a complaint or given information with respect to such alleged discrimination.

The Industrial Relations and Disputes Investigation Act.—This legislation came into effect by proclamation on Sept. 1, 1948, revoking the Wartime Labour Relations Regulations in effect since March 1944 and repealing the Industrial Disputes Investigation Act which had been in force from 1907 until suspended by the Wartime Regulations in 1944. The Act protects proceedings commenced and decisions, orders and certifications made under the wartime legislation in so far as these involve services authorized by the Act.

The Act applies only to industries within federal jurisdiction, viz., navigation, shipping, interprovincial railways, canals, telegraphs, steamship lines and ferries, both international and interprovincial, aerodromes and air transportation, radio broadcasting stations, and works declared by Parliament to be for the general advantage of Canada or of two or more

* The Act establishing the Canada Labour (Safety) Code (SC 1966-67, c. 62), proclaimed in effect Jan. 1, 1968, provides for the consolidation, under the title "Canada Labour Code", of the five Acts described under this heading.

provinces. However, the Act provides that provincial authorities if they so desire may enact similar legislation for application to employees within provincial jurisdiction and make mutually satisfactory arrangements with the Federal Government for the administration of such legislation by the federal authorities.

In general, the Act in its important features provides that employees and employers shall have the right to organize and bargain collectively and that trade unions may be certified as bargaining agents for employee groups. Trade unions and employers are required, upon notice, to bargain collectively in good faith. The Act provides for invoking collective bargaining negotiations and for the mediation of conciliation officers and conciliation boards in reaching collective agreements. Employees may change bargaining agents at times under conditions specified in the Act, which also prescribes conditions affecting the duration and renewal of collective agreements. Collective agreements are required to contain provision for the arbitration of disputes concerning the meaning or violation of such agreements and where such provision is lacking application may be made for its establishment. The Act prohibits unfair labour practices, i.e., the interference with or domination of trade unions by employers or interference, discrimination and coercion in trade union activity. The conditions that must be observed prior to strike and lockout action are set down in the Act. Industrial inquiry commissions may be appointed to investigate industrial matters or disputes. The Minister of Labour is charged with the administration of the Act and is directly responsible for the provisions affecting the appointment of conciliation officers, conciliation boards, industrial inquiry commissions, consent to prosecute, and complaints that the Act has been violated or that a party has failed to bargain in good faith. The Canada Labour Relations Board administers provisions concerning the certification of bargaining agents, the writing of a procedure into a collective agreement for the final settlement of disputes concerning the meaning or violation of such agreement, and the investigation of complaints made to the Minister.

Detailed statistics concerning activities under the Act may be found in the Annual Report of the Canada Department of Labour.

Canada Fair Employment Practices Act.—This Act, which came into effect on July 1, 1953, prohibits discrimination in employment based on race, colour, religion or national origin. It applies only to industries within federal jurisdiction—those covered by the Industrial Relations and Disputes Investigation Act (see above). This law prohibits acts of discrimination by employers; discrimination by trade unions in regard to membership or employment; the use by employers of employment agencies that practise discrimination; and the use of advertisements or inquiries in connection with employment that express, directly or indirectly, any limitation, specification or preference as to race, colour, religion or national origin.

Female Employees Equal Pay Act.—This Act came into effect on Oct. 1, 1956 and applies to employers and employees engaged in works, undertakings or businesses coming within federal jurisdiction. The Act, in its principal provision, prohibits an employer from employing a female for any work at a rate of pay that is less than the rate at which a male is employed by that employer for identical or substantially identical work.

Canada Labour (Standards) Code.—This Act received Royal Assent on Mar. 18 1965 when the administration and general provisions of Part V came into effect. The Act provides, in Parts I to IV which came into force on July 1, 1965, minimum standards with respect to hours of work, minimum wages, annual vacations and general holidays in industries under federal jurisdiction; the Annual Vacations Act 1958 was repealed.

The standard hours of work are eight a day and 40 a week, with maximum hours of 48 a week. Overtime pay at not less than time-and-one-half is required for all hours worked in excess of the standard hours. Permits are required in order to work more than 48 hours a week. Where the nature of the work necessitates irregular distribution of hours of work, the hours may be averaged over a period of two weeks or more.

The minimum wage is \$1.25 an hour for all persons 17 years of age or over and the minimum wage for persons under 17 years of age is \$1.00 an hour. Special rates may be set for persons receiving training on-the-job and for disabled or handicapped persons.

Employees are entitled to a two-week vacation with pay after one year of employment, with vacation pay calculated at 4 p.c. of wages. The general holidays are eight in number and every employee is entitled to a holiday with pay on each of them, or substitutes for them. Pursuant to an amendment to Part IV of the Code, the Multi-employer Employment (Longshoring) Regulations have been passed to provide for the granting of pay in lieu of general holidays to longshoremen in multi-employer employment who previously could not qualify for general holiday benefits because they did not have sufficient employment with one employer.

The Code has special and transitional provisions. Any person may make a submission (under Sect. 51) for deferment or suspension of Part I (Hours of Work). The Minister may grant deferment or suspension where it can be shown that the application of Part I is or would be prejudicial to the interests of the employees or detrimental to the operation of the business. The Minister's order to defer or suspend may be for a period up to but not exceeding 18 months from the date of the order, and the order may or may not contain conditions on hours. A further deferment or suspension may be made by the Governor in Council but only after there has been an inquiry, and the order of the Governor in Council must contain conditions on hours of work. Regulations have been enacted to carry out the purposes of the Code.

Canada Labour (Safety) Code.—This Code, which received Royal Assent in late 1966 and was proclaimed in effect as of Jan. 1, 1968, is the first safety legislation to be passed by the Parliament of Canada. Its primary purpose is to ensure safe working conditions for all employees in industries and undertakings under federal jurisdiction. The main features of the Code are that: (1) it provides for all the elements of a complete industrial safety program; (2) it sets out the general obligation of employers and employees to carry out their functions and duties in a safe manner and authorizes the making of regulations for dealing with the problems of occupational safety; (3) it does not override but complements other federal laws and provincial legislation, thus strengthening the safety movement; (4) it authorizes full use of advisory committees and special task forces in the drawing up and administering of regulations, to be done under continuous consultation among federal and provincial government departments, industry and organized labour; and (5) it provides for research into causes and prevention of accidents and for an extended program of safety education.

Provincial Labour Legislation

Because of the authority given by the British North America Act to the provincial legislatures to make laws in relation to local works and undertakings and in relation to property and civil rights in the province, power to enact labour legislation is largely the prerogative of the provinces. Since it imposes conditions on the rights of the employer and employee to enter into a contract of employment, labour legislation is, generally speaking, law in relation to civil rights. Under this authority, the provincial legislatures have enacted a large body of legislation affecting the employment relationship in such fields as working hours, minimum wages, the physical conditions of workplaces, apprenticeship and training, wage payment and wage collection, labour-management relations, workmen's compensation and other matters. In each province a Department of Labour is charged with the administration of labour laws. Legislation for the protection of miners is administered by departments dealing with mines. The workmen's compensation law in each province is administered by a Workmen's Compensation Board appointed by the Lieutenant-Governor in Council.

Minimum Wages.—As a means of ensuring adequate living standards for workers, all provinces have enacted minimum wage legislation. These laws vest in a minimum-

wage-fixing board authority to set or recommend minimum wages for employees. In most provinces minimum wage orders now cover almost all employment except farm labour and domestic service. Minimum rates set by the orders apply throughout the provinces except in Nova Scotia, Quebec and Saskatchewan. Nova Scotia is divided into three zones for minimum wage-setting purposes; in Quebec there are two zones. In Saskatchewan minimum rates vary between urban and rural areas. Except in Newfoundland, Nova Scotia and Prince Edward Island, the same rates are set for both sexes. The British Columbia board issues a separate order for each industry or occupation and a general order for employees not so covered. In the other provinces, minimum wage boards issue general orders, supplemented by special orders in some cases.

Hours of Work.—Five provinces have general hours-of-work laws. Those of Ontario, Alberta and British Columbia set limits on hours of work. Hours are limited in Alberta and British Columbia to eight a day and 44 a week, and in Ontario to eight a day and 48 a week. The Manitoba and Saskatchewan Acts regulate hours through the requirement that one and one half times the regular rate must be paid if work is continued after specified limits. The Manitoba law requires payment of the overtime rate after eight and 48 hours for men and eight and 44 hours for women. The Saskatchewan Act requires payment of the overtime rate after eight and 44 hours. Some exceptions are provided for in all five Acts. Hours of work are regulated for particular classes of workers or for some industries in all provinces under other legislation.

Regulation of Wages and Hours in Certain Industries.—Industrial standards legislation is in effect in Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Saskatchewan and Alberta. These laws provide that a schedule of wage rates and hours of work agreed upon by a representative group of employees and employers in an industry or trade may, upon approval by the government, be given statutory effect by Order in Council, and so become the minimum terms of employment for the entire industry or trade in the area. An advisory committee, usually equally representative of employers and employees, is established to assist in enforcing a schedule. This legislation is used fairly extensively in the building trades, the clothing industries, barbering and a few other industries. In Newfoundland, Nova Scotia and New Brunswick schedules have been issued only for certain construction trades in some areas. In Ontario, schedules for the garment trades, the fur industry and the hard furniture industry apply throughout the province and a substantial number of schedules apply to various construction trades and to barbering in specified areas.

Under the Quebec Collective Agreement Act, certain terms of a collective agreement, including those dealing with hours and wages, may be made binding on all employers and employees in the industry concerned in a defined area, provided the parties to the agreement represent a sufficient proportion of the industry. The standards made binding under this procedure are contained in a decree, which has the force of law. Approximately 100 decrees applying to construction, manufacturing, barbering and hairdressing, commercial establishments and other industries and services are in effect covering close to 250,000 employees. Of these decrees, 16 apply throughout the province.

The Construction Industry Wages Act in Manitoba provides for the setting of minimum rates of wages and maximum hours of work at regular rates for employees in the construction industry, on the recommendations of a board equally representative of employers and employees, with a public member as chairman. Under this Act, annual schedules set the regular work week and hourly rates of wages for various classifications of workers in the heavy construction industry, the Greater Winnipeg building construction industry, and in rural building construction.

Annual Vacations and Public Holidays.—All provinces except Newfoundland have annual vacations legislation applicable to most industries. In Prince Edward Island, New Brunswick and Quebec, workers are entitled to a vacation with pay of one

week after a year of service; in Ontario, workers are entitled to a vacation of one week after each of the first three years of employment, and of two weeks after the fourth and each subsequent year. In Nova Scotia and in the four western provinces, the annual paid vacation required by law is two weeks and, in Saskatchewan, three weeks after five years of service.

The Provinces of Alberta, British Columbia, Manitoba, Nova Scotia and Saskatchewan have enacted legislation of general application dealing with public holidays. The number of holidays named varies from five to eight, and the provisions for payment also vary.

Anti-discrimination Laws.—Eight provinces have adopted fair employment practices laws forbidding discrimination in hiring and conditions of employment and in trade union membership on grounds of race, colour, religion or national origin. In addition, in British Columbia and Ontario, discrimination in employment and trade union membership on grounds of age is prohibited. Eight provinces have equal pay laws that forbid discrimination in rates of pay solely on the basis of sex, and the Quebec statute respecting discrimination in employment forbids discrimination in employment on the basis of sex.

Accident Prevention and Workmen's Compensation.—Factory or industrial safety Acts in most provinces establish safeguards for the protection of the health and safety of workers in factories and other workplaces with respect to such matters as sanitation, heating, lighting, ventilation and the guarding of dangerous machinery. Long-established laws regulating the design, construction, installation and operation of mechanical equipment, such as boilers and pressure vessels, elevators and lifts and electrical installations, have been revised in recent years in line with technological changes, and legal standards have been set in new fields involving hazards to workers and the public, such as the use of gas- and oil-burning equipment. This legislation also prescribes standards of qualification for workers who install, operate or service such equipment. Laws requiring safety standards to be observed in construction and excavation work are in force in most provinces.

Workmen's compensation legislation providing a system of collective liability on the part of employers for accidents occurring to employees in the course of their employment are in force in all provinces. Workmen's compensation laws are described in greater detail on p. 786.

Labour Relations.—In all provinces, there is legislation similar in principle to the federal Industrial Relations and Disputes Investigation Act, designed to establish equitable relations between employers and employees and to facilitate the settlement of industrial disputes. These laws guarantee freedom of association and the right to organize, establish machinery (labour relations boards) for the certification of a trade union as the exclusive bargaining agent of an appropriate unit of employees, and require an employer to bargain with the certified trade union representing his employees. Except in Saskatchewan, they require the parties to comply with the conciliation procedures laid down in the Act before a strike or lockout may legally take place, and they provide also that every collective agreement must contain provision for the settlement of disputes arising out of the agreement, and prohibit strikes and lockouts while an agreement is in effect. All prohibit defined unfair labour practices and prescribe penalties.

In most provinces, certain classes of employees who are engaged in essential services, such as policemen and firemen, are forbidden to strike and, in lieu of the right to strike, have recourse to final and binding arbitration. There are special provisions relating to hospital disputes in six provinces.

Certification of Qualified Tradesmen.—All provinces have apprenticeship laws providing for an organized procedure of on-the-job training and school instruction in designated skilled trades, and statutory provision is made in most provinces for the issuing of certificates of qualification, on application, to qualified tradesmen in certain trades. In some provinces, legislation is in effect making it mandatory for certain classes of tradesmen to hold a certificate of competency.

Changes in 1967.—Significant developments in provincial labour legislation taking place in the year 1967 are described below.

Minimum Wages.—General minimum wage rates were increased in five provinces during 1967. The minimum rates in effect at the beginning of 1968 for experienced workers in certain cities are shown in Table 1.

1.—Minimum Wage Rates for Experienced Workers in Certain Cities, by Sex, Jan. 1, 1968

Item, Type of Establishment and Sex	St. John's, Nfld.	Charlottetown, P.E.I.	Halifax, N.S.	Saint John, N.B.	Montreal, Que.	Toronto, Ont.	Winnipeg, Man.	Regina, Sask.	Edmonton, Alta.	Vancouver, B.C.
Maximum hours per week to which the rates apply.	M. F.	48 ¹ 48 ¹	— 48	48 48	48 48	48 ² 48 ²	48 48	48 44	44 44	44 40 ³
		\$ an hour	\$ an hour	\$ an hour	\$ an hour	\$ an hour	\$ an hour	\$ a week	\$ an hour	\$ an hour
Factories.....	M. F.	0.70 0.50	1.10 ⁴ —	1.10 0.85	1.00 1.00	1.05 1.05	1.00 1.00	1.10 1.10	40.00 40.00	1.25 1.25
Laundries.....	M. F.	0.70 0.50	1.10 0.55	1.10 0.85	1.00 1.00	1.05 1.05	1.00 1.00	1.10 1.10	40.00 40.00	1.25 1.25
Shops.....	M. F.	0.70 0.50	1.10 —	1.10 0.85	1.00 1.00	1.05 1.05	1.00 1.00	1.10 1.10	40.00 40.00	1.25 1.25
Hotels and restaurants.	M. F.	0.70 0.50	1.10 21.00 ⁵	1.10 0.85	1.00 1.00	.95 .95	1.00 1.00	1.10 1.10	40.00 40.00	1.25 1.25
Beauty parlours.....	M. F.	0.70 0.50	1.10 —	0.90 0.90	1.00 1.00	1.05 1.05	1.00 1.00	1.10 1.10	40.00 40.00	1.25 1.25
Theatres and amusement places.	M. F.	0.70 0.50	1.10 —	1.10 0.85	1.00 1.00	1.00 1.00	1.00 1.00	1.10 1.10	40.00 40.00	1.25 1.25
Offices.....	M. F.	0.70 0.50	1.10 —	1.10 0.85	1.00 1.00	1.05 1.05	1.00 1.00	1.10 1.10	40.00 40.00	1.25 1.25

¹ 40 hours in shops.

² In hotels and restaurants the rates apply to a maximum of 54 hours in a week.

³ In beauty parlours the rates apply to a maximum of 44 hours in a week.

⁴ 90 cents an hour for male workers in food processing plants.

⁵ Dollars a week for waitresses; \$16 for other restaurant workers.

⁶ Dollars a week.

Annual Vacations and Public Holidays.—Prince Edward Island enacted its first Vacation Pay Act, giving workers the right to an annual vacation with pay of one week after a year of employment. The Nova Scotia Legislature increased the duration of the vacation to which workers are entitled under the Vacation Pay Act from one week to two weeks after a year of service. In line with this change, vacation pay was increased from 2 p.c. to 4 p.c. of earnings. The Quebec vacation with pay order (No. 3) was revised, bringing several new classes of workers within its scope. In British Columbia, the Board of Industrial Relations issued its first holiday order, requiring employers to give their employees eight paid general holidays a year.

Anti-discrimination Measures.—New Brunswick consolidated its fair employment practices and fair accommodation practices laws in one statute, the Human Rights Act, and established a five-member New Brunswick Human Rights Commission to administer the Act, subject to the control of the Minister of Labour. In both New Brunswick and Ontario, exemptions of employers with fewer than five employees were removed from fair employment practices legislation. The Nova Scotia Legislature set up a Human Rights Commission to co-ordinate human rights activities within the province and to act as a research, advisory and promotional body in the general field of human rights. A similar amendment was made to the equal pay legislation of both Nova Scotia and Prince Edward Island, making it compulsory for employers to pay female employees the same rate of wages as male employees when they are required to do substantially the same work in the same establishment; the word "substantially" was added.

Industrial Safety.—Nova Scotia passed the Construction Safety Act, the first legislation in the province aimed specifically at the safety of workmen in the construction

industry; the new Act applies to all types of construction projects including road-building, pipeline construction, wharf structures, tunnels, and buildings, whether carried on by the government or private employers. In both Ontario and Quebec, regulations were issued providing employees on construction projects where complex falsework is used with better protection against accidents. A new Mines Regulation Act applying to metalliferous mines replaced the former legislation in British Columbia. The mines safety rules were revised and expanded and, among other changes, a new class of inspectors to be known as Environmental Control Inspectors will have the duty of inspecting ventilation, dust and noise control.

Workmen's Compensation.—Benefits under workmen's compensation Acts were increased in five provinces. Widows' pensions were increased from \$75 to \$100 a month in Newfoundland and Quebec. In Quebec, the lump sum payable to a widow was also increased—from \$300 to \$500. In Newfoundland, Prince Edward Island and Quebec, monthly allowances to dependent children were raised and, in Manitoba and Newfoundland, the age to which benefits may be continued for educational purposes was extended. In British Columbia, monthly pensions and allowances to dependent widows and children were increased in accordance with a formula under which these payments are tied to the Consumer Price Index. Maximum annual earnings on which compensation may be paid were raised from \$6,000 to \$6,600 in Manitoba and from \$5,000 to \$6,000 in Quebec.

Labour Relations.—Amendments to the Industrial Relations Act of Prince Edward Island brought the main certification provisions into line with those in other jurisdictions and provided for the use of industrial inquiry commissions. In Nova Scotia, an amendment to the Trade Union Act provided that the Labour Relations Board is not required to grant a separate certification to a craft or technical unit if it is included in a bargaining unit represented by another bargaining agent at the time the application is made. Previously, the board was required to grant a separate certification for such a group if the unit were otherwise suitable for collective bargaining. Also in Nova Scotia, a new Act provided for a negotiation system for provincial civil servants. Emergency legislation was enacted in Quebec involving teachers and transport workers and in Newfoundland involving hospital workers. In Quebec, An Act to Ensure for Children the Right to Education and to Institute a New Schooling Agreement Plan brought to an end a strike of teachers and prepared the way for province-wide negotiations. Also during the year, a special session of the Quebec legislature passed legislation to bring to an end a strike of employees of the Montreal Transportation Commission. The legislation required the employees to return to work and required the parties to resume negotiations with the assistance of a mediator. Failing settlement the dispute was to be submitted to arbitration. After some hospital workers had gone on strike in defiance of an order proclaiming a state of emergency, the Newfoundland legislature passed an Act which banned strikes by hospital workers in that province.

Section 2.—The Labour Force*

Since 1946, reliable information for analysis of employment in Canada, at the national level and for the five major regions, has been provided through a labour force survey. Between November 1945 and November 1952, quarterly surveys were undertaken and since then the survey has been carried out on a monthly basis. The sample used in the survey has been designed to represent all persons in the population, 14 years of age or over, residing in Canada, with the exception of residents of the Yukon and Northwest Territories, Indians living on reserves, inmates of institutions and members of the Armed Forces. Interviews are carried out in approximately 35,000 households chosen by area sampling methods across the country.†

*Prepared in the Special Surveys Division, Dominion Bureau of Statistics.

†A comprehensive description of the survey is given in DBS publication *Canadian Labour Force Survey—Methodology* (Catalogue No. 71-504).

In the labour force survey, persons are classified on the basis of their activity during the week prior to the survey interview week. This week is called the reference week. The main divisions in the classification are:—

Labour Force.—The civilian labour force is composed of that portion of the civilian non-institutional population, 14 years of age or over who, during the reference week, were employed or unemployed.

Employed.—The employed include all persons who, during the reference week: (a) did any work for pay or profit; (b) did any work which contributed to the running of a farm or business operated by a related member of the household; (c) had a job, but were not at work, because of bad weather, illness, industrial dispute or vacation, or because they were taking time off for other reasons. Persons who had jobs but did not work during the reference week and who also looked for work are included in the unemployed as persons without work and seeking work.

Unemployed.—The unemployed include all persons, who, through the reference week: (a) were without work and seeking work, i.e., did no work during the reference week and were looking for work; or would have been looking for work except that they were temporarily ill, were on indefinite or prolonged layoff, or believed no suitable work was available in the community; (b) were temporarily laid off for the full week, i.e., were waiting to be called back to a job from which they had been laid off for less than 30 days.

Not in the Labour Force.—Those not in the labour force include all civilians 14 years of age or over (exclusive of institutional population) who are not classified as employed or unemployed. This category includes those: going to school; keeping house; too old or otherwise unable to work; and voluntarily idle or retired. Housewives, students and others who worked part-time are classified as employed, or if they looked for work as unemployed.

The estimates derived from the labour force survey, which are based on a sample of households, are subject to sampling error. Somewhat different figures might be obtained if a complete census were taken and this difference is called the sampling error of the estimates. In the design and processing of the labour force survey, extensive efforts are made to minimize the sampling error; in general, the percentage of error tends to decrease as the size of the estimate increases. A statistical measure of the sampling error is given in DBS monthly publication *The Labour Force* (Catalogue No. 71-001).

2.—Estimates of the Civilian Labour Force and its Main Components, Annual Averages, 1946 and 1956-67

NOTE.—Comparable figures for 1947-55 are given in the 1962 Year Book, p. 708. Figures do not include inmates of institutions and Indians on reservations.

of institutions and Indians on observations.

Year	Civilian Population (14 years of age or over)	Civilian Labour Force (14 years of age or over)						Persons not in the Labour Force (14 years of age or over)	
		Employed					Unem- ployed		Total Labour Force
		Non-agriculture			Agri- culture	Total (em- ployed)			
		Paid Workers	Other	Total (non-agri- culture)					
	'000	'000	'000	'000	'000	'000	'000	'000	'000
1946 ¹	8,779	2,990	490	3,480	1,186	4,666	163	4,829	3,950
1956.....	10,807	4,286	522	4,808	777	5,585	197	5,782	5,025
1957.....	11,123	4,442	540	4,983	748	5,731	278	6,008	5,115
1958.....	11,388	4,461	527	4,988	718	5,706	432	6,137	5,250
1959.....	11,605	4,624	546	5,170	700	5,870	372	6,242	5,363
1960.....	11,831	4,732	551	5,282	683	5,965	446	6,411	5,420
1961.....	12,053	4,799	575	5,374	681	6,055	466	6,521	5,531
1962.....	12,280	4,980	585	5,565	660	6,225	390	6,615	5,665
1963.....	12,536	5,138	588	5,726	649	6,375	374	6,748	5,787
1964.....	12,817	5,368	611	5,979	630	6,609	324	6,933	5,884
1965.....	13,128	5,655	613	6,268	594	6,862	280	7,141	5,986
1966.....	13,475	5,999	610	6,609	544	7,152	267	7,420	6,055
1967.....	13,874	6,206	614	6,820	559	7,379	315	7,694	6,179

¹Excludes Newfoundland.

Characteristics of the Civilian Labour Force 1946-67.—The civilian non-institutional population averaged 13,874,000 in 1967 compared with 8,779,000 in 1946, an increase of 58.0 p.c., and during the same period the labour force increased 59.3 p.c. to 7,694,000. As a result, the proportion of the population 14 years of age or over in the labour force rose from 55.0 p.c. to 55.5 p.c. During the period under review, the Canadian participation rate oscillated between a low of 52.9 p.c. in 1954 and 1955 and a high of 55.5 p.c. in 1967.

An important development in the past two decades has been the steadily declining male participation rate. Such factors as changes in the age composition of the population, an increase in the number of young people deferring their entry into the labour market by remaining in school longer and a greater tendency for workers to retire from the labour force at an earlier age contributed to the drop in the male labour force participation rate from 85.1 p.c. to 77.5 p.c. between 1946 and 1967. These same factors also affected female participation, but to a lesser degree. Of greater significance has been the tendency for women to re-enter or remain in the labour market after marriage. For example, between 1959 and 1967 the labour force participation rate for married women increased from 18.0 p.c. to 28.3 p.c. In 1967, married women constituted 53.3 p.c. of the female labour force and the proportion of women 14 years of age or over in the labour force rose from 23.4 p.c. in 1953 to 33.8 p.c. in 1967. The increased participation of married women was reflected in the participation rates for the groups 25-44 and 45-64 years of age. In the postwar period, the proportion of women 25-44 years of age in the labour force rose from 23.1 p.c. to 35.7 p.c. and those 45-64 years of age from 17.2 p.c. to 35.1 p.c.

Associated with the large entry of women into the labour market has been the increase in job opportunities in the service-producing industries. In 1946, the goods-producing industries and the service-producing industries accounted for about 60 p.c. and 40 p.c., respectively, of total employment; by 1967 these proportions had changed to 41 p.c. and 59 p.c., respectively. There were also significant changes in the distribution of employment within these industry sectors. In 1946, almost one in four employed persons worked in agriculture but by 1967 the ratio had dropped to less than one in 12. Between 1946 and 1967, a slight decline occurred in the proportion of persons employed in manufacturing industries but the relative increase of those employed in trade, finance, insurance and real estate and in service industries was substantial.

Paralleling the shifts in the distribution of employment among industries was a change in the occupational distribution. There was a larger increase in the number of office workers than in the number of craftsmen, production process and related workers in the postwar period, reflecting the changing composition of final output and also the introduction of new methods of production. Table 5 shows that increases occurred in the proportions of persons employed in the managerial, the professional and technical, the clerical, the service and recreational, and the craftsmen, production process and related workers groups in the 1948-67 period. On the other hand, agricultural occupations, in which approximately 22.5 p.c. of all employed persons worked in 1948, accounted for only 7.6 p.c. of employed persons in 1967. Small declines also occurred in the proportions of persons working in the fishing, logging, trapping and mining occupational group and in sales, transportation and communication occupations.

During the 1946-67 period, total employment increased by 58.1 p.c. to 7,379,000; the number of men employed rose by 40.8 p.c. to 5,083,000 and the number of women 117.2 p.c. to 2,296,000. On an annual average basis, unemployment as a percentage of the labour force fluctuated widely during the period, ranging from 2.2 p.c. in 1947 to 7.1 p.c. in 1961; it averaged 4.7 p.c. in 1967. Throughout the period, unemployment rates were substantially lower for women than for men. Persons not in the labour force averaged 6,179,000 in 1967 compared with 3,950,000 in 1946, an increase of 56.4 p.c. Housewives and students together accounted for about 72 p.c. of the 1967 total.

Employment was substantially higher in 1967 than in 1946 in all regions. In British Columbia it increased 85.4 p.c., in Ontario 66.0 p.c., in Quebec 62.1 p.c., in the Prairies 30.7 p.c. and in the Atlantic region (excluding Newfoundland) 17.9 p.c. There was an uneven regional distribution of unemployed persons in 1967. The Atlantic region, which contained only 8.3 p.c. of the total labour force, accounted for 13.3 p.c. of the unemployed, and Quebec, which contained 28.5 p.c. of the labour force, accounted for 36.8 p.c. of the unemployed. Conversely, Ontario and the Prairie region, with 36.8 p.c. and 16.5 p.c., respectively, of the labour force, accounted for only 28.3 p.c. and 9.2 p.c., respectively, of the unemployed. British Columbia had 9.9 p.c. of the labour force and 12.4 p.c. of the unemployed. This uneven distribution, which also prevailed in 1946, was reflected in the regional unemployment rates; in 1967 the annual average unemployment rate in the Atlantic region was 6.6, in Quebec 5.3, in Ontario 3.1, in the Prairies 2.3 and in British Columbia 5.1.

3.—Percentage Distribution of the Population 14 Years of Age or Over in the Labour Force and Non-labour Force Categories, by Sex, 1946 and 1956-67

NOTE.—Comparable figures for 1947-55 are given in the 1962 Year Book, pp. 710-711.

Year	Population (14 years of age or over)	Percentage Distribution of the Population 14 Years of Age or Over							
		Labour Force				Not in Labour Force			
		Employed		Unem- ployed	Total	Women Keeping House	Persons Going to School	Other	Total
		Agri- culture	Non- agri- culture						
MALES									
	'000	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1946 ¹	4,400	23.4	58.6	3.1	85.1	...	5.5	9.4	14.8
1956.....	5,398	13.7	65.4	3.2	82.2	...	6.2	11.6	17.8
1957.....	5,559	12.8	65.1	4.4	82.3	...	6.4	11.4	17.7
1958.....	5,684	11.7	63.3	6.6	81.7	...	6.8	11.6	18.4
1959.....	5,785	11.3	64.2	5.6	81.0	...	7.2	11.7	19.0
1960.....	5,830	10.7	63.4	6.6	80.7	...	7.5	11.7	19.3
1961.....	5,991	10.4	62.7	6.7	79.8	...	8.1	12.1	20.2
1962.....	6,094	9.8	63.8	5.4	79.1	...	8.6	12.3	20.9
1963.....	6,215	9.3	64.2	5.0	78.5	...	9.0	12.5	21.5
1964.....	6,351	8.8	65.1	4.2	78.1	...	9.5	12.4	21.9
1965.....	6,505	8.0	66.4	3.4	77.9	...	9.9	12.2	22.1
1966.....	6,678	7.1	67.5	3.1	77.8	...	10.2	12.1	22.3
1967.....	6,876	7.1	66.9	3.6	77.5	...	10.3	12.2	22.5
FEMALES									
	'000	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1946 ¹	4,379	3.6	20.6	0.6	24.7	63.2	5.1	7.0	75.3
1956.....	5,409	0.7	23.7	0.5	24.9	64.9	5.5	4.7	75.1
1957.....	5,564	0.7	24.5	0.6	25.8	63.9	5.7	4.5	74.2
1958.....	5,703	0.9	24.4	0.9	26.2	63.2	6.1	4.5	73.8
1959.....	5,820	0.8	25.1	0.8	26.7	62.4	6.4	4.5	73.3
1960.....	5,942	0.8	26.0	1.0	27.9	61.0	6.6	4.5	72.1
1961.....	6,061	1.0	26.6	1.1	28.7	59.9	6.9	4.5	71.3
1962.....	6,186	1.0	27.1	1.0	29.0	59.1	7.4	4.5	71.0
1963.....	6,320	1.1	27.5	1.0	29.6	58.1	7.9	4.4	70.4
1964.....	6,466	1.1	28.5	0.9	30.5	56.9	8.3	4.3	69.5
1965.....	6,623	1.1	29.4	0.8	31.3	55.6	8.6	4.5	68.7
1966.....	6,796	1.0	30.9	0.9	32.8	54.0	8.8	4.5	67.2
1967.....	6,997	1.0	31.8	1.0	33.8	53.2	8.8	4.2	66.2

¹Excludes Newfoundland.

4.—Percentage Distribution of the Employed by Industrial Group, 1946 and 1956-67

NOTE.—Figures for 1946 and 1956-60 are classified according to the 1948 standard industrial classification and those for 1961-67 according to the 1960 standard industrial classification.

Year	Total Employed	Percentage Distribution							
		Agriculture	Other Primary Industries	Manufacturing	Construction	Transportation and Other Utilities	Trade	Finance, Insurance and Real Estate	Services ¹
	'000	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1946 ²	4,666	25.4	4.0	26.0	4.8	8.1	12.3	2.7	16.8
1956.....	5,585	13.9	4.6	25.7	7.4	9.0	15.8	3.5	20.3
1957.....	5,731	13.0	4.3	26.1	7.7	8.9	15.7	3.6	20.8
1958.....	5,706	12.5	3.7	25.6	7.5	8.9	16.0	3.7	22.1
1959.....	5,870	11.8	3.4	25.5	7.5	8.9	16.2	3.7	23.0
1960.....	5,965	11.3	3.5	24.7	7.0	8.6	16.5	3.8	24.6
1961.....	6,055	11.2	3.0	24.0	6.2	9.3	16.9	3.9	25.3
1962.....	6,225	10.6	2.9	24.1	6.3	9.4	16.9	4.0	25.8
1963.....	6,375	10.2	2.8	24.3	6.4	9.4	16.7	4.0	26.3
1964.....	6,609	9.5	3.0	25.0	6.2	8.9	16.7	4.0	26.7
1965.....	6,862	8.7	3.4	23.8	6.7	9.0	16.7	4.1	27.6
1966.....	7,152	7.6	3.1	24.4	7.0	8.7	16.5	4.2	28.5
1967.....	7,379	7.6	3.0	23.8	6.4	8.9	16.6	4.2	29.5

¹ Includes public administration and defence.

² Excludes Newfoundland.

5.—Percentage Distribution of the Employed by Major Occupational Group, 1948-67

NOTE.—Figures for 1948-60 are classified according to the 1951 occupational classification, using 1961 classification terminology, and those for 1961-67 are classified according to the 1961 occupational classification.

Year	All Occupations Annual Average	Managerial	Professional and Technical	Clerical	Sales ¹	Service and Recreation
	No.	p.c.	p.c.	p.c.	p.c.	p.c.
1948 ²	4,875	6.1	5.9	10.2	8.4	7.4
1949 ²	4,913	7.8	6.0	10.4	7.3	7.6
1950.....	4,976	8.2	6.4	10.9	7.0	8.2
1951.....	5,097	8.3	6.4	11.4	7.3	7.9
1952.....	5,159	8.9	6.5	11.5	7.4	8.7
1953.....	5,235	9.1	7.1	11.3	7.4	8.5
1954.....	5,243	8.7	7.3	11.6	7.6	8.9
1955.....	5,364	8.4	7.6	11.7	7.7	8.8
1956.....	5,585	8.3	7.6	12.2	7.6	9.1
1957.....	5,731	8.7	8.4	12.3	7.8	9.2
1958.....	5,706	8.8	8.8	12.6	7.9	9.7
1959.....	5,870	8.9	9.3	12.6	8.3	9.8
1960.....	5,965	8.7	9.7	12.8	8.3	10.2
1961.....	6,055	9.2	9.9	13.3	7.4	10.9
1962.....	6,225	9.3	10.6	13.3	7.3	10.9
1963.....	6,375	9.2	10.6	13.4	7.2	11.1
1964.....	6,609	9.2	10.6	13.4	7.4	11.7
1965.....	6,862	9.3	11.4	13.4	7.0	11.6
1966.....	7,152	9.4	12.2	14.1	6.7	11.4
1967.....	7,379	9.4	12.4	14.1	6.8	11.8

For footnotes, see end of table, p. 760.

5.—Percentage Distribution of the Employed by Major Occupational Group, 1948-67 —concluded

Year	Transportation	Communication	Farmers and Farm Workers	Fishermen, Trappers, Loggers and Miners	Craftsmen, Production Process and Related Workers ¹	Labourers and Unskilled Workers
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1948 ²	7.0	1.4	22.5	3.3	23.9	4.0
1949 ²	7.0	1.4	22.0	2.9	24.5	3.1
1950.....	6.7	1.4	20.6	3.2	24.9	2.6
1951.....	6.7	1.4	18.5	3.5	23.9	4.7
1952.....	6.8	1.4	17.3	3.2	23.2	5.2
1953.....	6.8	1.5	16.5	2.8	23.6	5.5
1954.....	6.5	1.5	16.9	3.1	22.7	5.4
1955.....	6.7	1.5	15.4	3.3	22.9	6.0
1956.....	6.7	1.4	14.0	3.3	23.3	6.4
1957.....	6.5	1.5	13.1	3.0	23.6	5.9
1958.....	6.5	1.6	12.5	2.6	23.2	5.8
1959.....	6.4	1.5	11.9	2.4	23.1	5.9
1960.....	6.4	1.4	11.4	2.5	22.8	5.7
1961.....	5.8	0.9	11.3	2.1	24.2	5.0
1962.....	5.6	0.9	10.6	1.9	24.7	4.8
1963.....	5.6	0.9	10.3	1.9	24.9	4.8
1964.....	5.6	0.8	9.6	2.1	24.6	4.9
1965.....	5.4	0.9	8.7	2.2	25.2	4.9
1966.....	4.8	0.9	7.7	2.0	26.1	4.8
1967.....	4.7	0.9	7.6	1.9	26.1	4.3

¹ Includes commercial and financial occupations, manufacturing and mechanical and construction occupations.

² Excludes Newfoundland.

³ Includes manu-

6.—Estimates of Employment and Unemployment, by Region, 1946 and 1956-67

NOTE.—Comparable figures for 1947-55 are given in the 1962 Year Book, p. 712.

Year	Atlantic		Quebec		Ontario		Prairies		British Columbia	
	Employment	Unemployment	Employment	Unemployment	Employment	Unemployment	Employment	Unemployment	Employment	Unemployment
	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000
1946 ¹ ..	392	23	1,283	54	1,654	48	947	21	390	16
1956..	489	31	1,535	80	2,096	51	976	22	489	14
1957..	492	45	1,576	101	2,161	77	992	27	509	27
1958..	469	67	1,582	153	2,142	122	1,013	43	501	47
1959..	482	59	1,620	138	2,198	103	1,049	35	521	36
1960..	492	59	1,639	164	2,249	128	1,069	47	516	48
1961..	507	64	1,652	168	2,269	132	1,100	53	527	49
1962..	516	62	1,713	139	2,317	105	1,129	46	551	39
1963..	522	55	1,762	142	2,382	94	1,138	44	571	39
1964..	542	46	1,827	124	2,473	83	1,162	37	605	34
1965..	566	45	1,912	109	2,548	66	1,196	31	639	28
1966..	586	40	2,016	100	2,651	69	1,222	26	678	32
1967..	593	42	2,080	116	2,745	89	1,238	29	723	39

¹ Excludes Newfoundland.

Section 3.—Employment Statistics*

Subsection 1.—Statistics of Employment, Earnings and Hours

Monthly records of employment have been collected from larger business establishments since 1921. At that time a survey was instituted to provide employment index numbers which would serve as current economic indicators. In 1941 the survey was extended to provide information on payrolls and per capita wages and salaries and in 1944 it was further extended to provide data on hours of work and hourly and weekly wages. Also during the war period, separate records for men and women employees were established. Beginning with the January 1966 issues of *Employment and Average Weekly Wages* and *Man-Hours and Hourly Earnings*, the data compiled are on a revised basis. A historical series (Catalogue No. 72-504) provides, on the revised basis, monthly and annual data from 1961-65 and will be extended to provide data from 1957 to this period. The revision has involved the publishing of employment indexes on the time base 1961 = 100 in place of the time base 1949 = 100. All data are compiled on the 1960 standard industrial classification instead of the 1948 standard industrial classification. The new establishment concept of reporting has been introduced with the result that, in a number of cases, activities formerly reported separately are now consolidated into operating entities capable of reporting all elements of basic industrial statistics, including employment and payrolls.

Statistics below the provincial level are compiled for many urban areas using the census definition for metropolitan areas and modified definitions for other urban areas. The survey at present covers establishments with 20 or more employees in any month of the current period rather than, as formerly stated, "those usually having 15 or more employees". The data in Tables 7-14 are presented according to the revised series.

The survey now covers sectors of the following major industry divisions: forestry; mining (including milling); manufacturing; construction; transportation, communication and other utilities; trade; and finance, insurance and real estate. Also included are certain branches of the service industry, mainly hotels and restaurants, laundries and dry-cleaning plants, and recreational and business services. The survey excludes agriculture, public administration and community services such as health and education. The coverage corresponds closely, therefore, to the business sector of the economy. Since the survey does not cover small firms and excludes several industries, the employment records are published in the form of index numbers (1961 = 100).

The monthly employment statistics relate to the number of employees drawing pay in the last pay period in the month. Data are requested for all classes of employees with the exception of homeworkers and casual employees working less than one day in the pay period. Owners and firm members are also excluded. The respondents report the gross wages and salaries paid in the last pay period in the month, before deductions are made for income tax, unemployment insurance, etc. The reported payrolls represent gross remuneration for services rendered and paid absences in the period specified, including salaries, commissions, piece-work and time-work payments, and such items as shift premiums and regularly paid production, and incentive and cost-of-living bonuses. The statistics on hours relate to the straight and overtime hours worked by those wage-earners for whom records of hours are maintained, and also to hours credited to wage-earners absent on paid leave during the reported period. If the reported period exceeds one week, the payroll and hours data are reduced to weekly equivalents.

Employment.—Table 7 shows that, over the five-year period 1962-66, the industrial composite index of employment rose by 20.7 p.c.; service increased by 39.1 p.c., construction by 32.1 p.c., manufacturing by 23.5 p.c., trade by 22.1 p.c. and finance, insurance and real estate by 20.5 p.c. The increase in manufacturing was particularly significant in view of the fact that this industry accounts for over 35 p.c. of industrial employment as measured by the employment survey. Mining, forestry and transportation, communication and other utilities also showed some improvement during 1966.

*Prepared in the Employment Section, Labour Division, Dominion Bureau of Statistics.

7.—Annual Average Index Numbers of Employment by Industrial Division, 1962-66, and Monthly Indexes 1966

NOTE.—These indexes are calculated as at the last pay period of each month, on the base 1961=100.

Year and Month	Forestry	Mining (incl. milling)	Manufacturing	Construction	Transportation, Communication and Other Utilities	Trade	Finance, Insurance and Real Estate	Service ¹	Industrial Composite
Averages—									
1962.....	99.5	99.4	103.8	101.8	99.4	101.2	103.2	101.7	102.2
1963.....	96.9	97.9	106.1	100.9	100.1	103.5	107.6	106.1	104.4
1964.....	102.8	98.8	111.1	105.8	101.5	108.1	111.9	114.7	108.2
1965.....	104.1	105.1	117.2	119.7	103.9	114.3	116.6	125.9	114.3
1966.....	106.2	106.9	123.5	132.1	106.7	122.1	120.5	139.1	120.7
1966—									
January.....	91.8	106.0	119.1	111.1	100.6	116.7	118.2	127.7	114.4
February.....	86.6	106.0	119.9	111.2	100.2	115.9	118.5	129.4	114.5
March.....	74.5	106.1	120.6	112.4	100.4	117.1	118.6	131.2	115.0
April.....	67.2	104.6	121.0	121.6	103.6	119.7	118.6	133.6	116.7
May.....	96.4	107.8	123.6	135.2	106.0	121.0	119.3	137.9	120.3
June.....	121.8	112.0	126.6	144.7	110.2	123.1	120.8	143.4	124.4
July.....	132.4	102.9	124.0	150.5	112.0	121.9	122.1	145.8	123.9
August.....	130.6	111.4	127.3	149.9	111.9	122.2	122.2	149.2	125.7
September.....	126.4	107.6	126.8	147.6	110.4	122.9	121.5	145.5	124.7
October.....	122.1	106.6	126.0	147.3	109.0	124.9	121.7	143.6	124.2
November.....	119.2	106.7	125.1	138.8	108.3	129.1	122.1	142.5	123.8
December.....	105.9	105.1	121.6	115.2	107.3	130.7	121.9	139.4	120.3

¹ Consists mainly of hotels, restaurants, laundries, dry-cleaning establishments and recreational and business services.

8.—Annual Average Index Numbers of Employment, by Industrial Division and Group, 1962-66

NOTE.—These indexes refer to the last week of each month and are on the base 1961=100.

Industry	1962	1963	1964	1965	1966
Forestry.....	99.5	96.9	102.8	104.1	106.2
Mining (incl. milling).....	99.4	97.9	98.8	105.1	106.9
Metals.....	99.4	96.1	96.9	103.2	103.4
Gold.....	96.3	92.9	88.1	81.0	71.9
Copper-gold-silver.....	100.5	101.8	101.9	109.6	120.5
Nickel-copper.....	99.4	89.1	95.6	108.3	106.3
Iron.....	111.4	113.3	119.8	139.8	141.0
Mineral fuels.....	99.6	99.0	97.5	100.5	100.8
Coal.....	95.0	93.9	89.0	91.3	87.5
Petroleum and gas wells.....	103.9	104.0	106.0	109.7	113.9
Non-metals (except fuels).....	102.3	105.3	104.7	106.7	110.1
Asbestos.....	102.0	100.7	97.4	95.9	100.6
Manufacturing.....	103.8	106.1	111.1	117.2	123.5
Durable goods.....	105.9	109.5	116.7	126.0	134.9
Non-durable goods.....	102.1	103.4	106.6	110.1	114.3
Foods and beverages.....	101.5	101.3	103.3	106.6	109.9
Slaughtering and meat processing.....	98.4	98.8	100.7	104.2	101.4
Dairy products.....	99.0	99.5	102.1	105.1	106.3
Fish products.....	107.9	107.5	107.6	117.3	127.6
Fruit and vegetable processing.....	111.1	108.0	112.9	118.4	124.8
Grain mill products.....	99.8	96.1	96.7	94.9	100.0
Biscuits.....	101.9	100.5	102.5	103.8	106.2
Bakeries.....	99.7	99.0	100.1	102.2	103.8
Confectionery.....	103.0	105.4	104.8	110.9	116.0
Soft drinks.....	102.5	104.6	108.3	110.0	117.6
Distilleries.....	96.8	95.0	96.1	98.6	108.5
Breweries.....	96.9	97.0	99.0	98.9	99.1
Tobacco processing and products.....	105.0	104.0	102.0	99.2	99.5
Rubber products.....	104.3	107.7	113.3	117.4	123.6
Leather products.....	102.2	101.7	102.4	101.7	103.5
Shoes (except rubber).....	101.6	100.1	98.2	96.0	98.4
Luggage, handbag and small leather goods.....	106.2	112.2	121.2	126.3	129.7

8.—Annual Average Index Numbers of Employment, by Industrial Division and Group, 1962-66—continued

Industry	1962	1963	1964	1965	1966
Manufacturing—concluded					
Textile products.....	104.4	109.3	115.8	120.1	118.2
Cotton yarn and cloth.....	103.1	102.6	106.9	106.1	96.3
Woollen yarn and cloth.....	104.2	109.8	112.8	111.7	110.4
Synthetic textiles.....	104.9	114.8	127.1	136.3	136.3
Knitting mills.....	103.0	103.2	106.3	111.5	116.8
Hosiery.....	101.4	98.9	98.6	101.2	101.6
Other knitting mills.....	104.3	105.6	110.8	117.9	125.6
Clothing.....	101.7	104.4	109.9	112.5	114.5
Men's clothing.....	104.6	108.4	113.9	118.5	120.2
Women's clothing.....	100.1	102.3	110.2	113.3	116.6
Wood products.....	104.3	107.4	111.2	113.4	113.1
Saw, shingle and planing mills.....	102.5	105.2	109.2	111.6	108.9
Furniture and fixtures.....	106.3	108.4	113.1	122.8	132.4
Household furniture.....	107.9	108.8	116.1	126.5	136.9
Paper and allied industries.....	102.1	103.2	106.8	111.1	117.5
Pulp and paper mills.....	100.7	101.2	104.9	108.6	114.9
Printing, publishing and allied industries.....	101.8	101.6	101.4	105.4	110.9
Commercial printing.....	101.3	101.0	102.9	105.3	110.7
Printing and publishing.....	101.5	102.1	99.4	105.2	109.4
Primary metal industries.....	102.2	104.9	112.3	118.7	124.6
Iron and steel mills.....	106.5	112.9	121.9	129.5	133.8
Iron foundries.....	105.4	112.3	119.0	131.9	145.7
Smelting and refining.....	95.9	93.6	99.8	105.5	109.1
Metal fabricating industries.....	106.6	108.9	114.5	125.7	136.2
Fabricated structural metals.....	105.8	96.6	99.7	119.2	134.5
Ornamental and architectural metals.....	109.9	112.4	119.3	125.2	130.8
Metal stamping, pressing and coating.....	107.5	112.5	119.1	128.7	136.1
Wire and wire products.....	104.8	110.0	120.3	132.3	136.4
Hardware, tools and cutlery.....	109.4	117.4	128.6	149.5	149.8
Heating equipment.....	105.0	104.7	105.2	107.1	110.9
Miscellaneous metal fabricating.....	107.2	111.5	118.8	127.1	137.3
Machinery (except electrical).....	106.4	114.8	121.4	137.1	147.7
Agricultural implements.....	96.8	111.6	114.8	133.8	142.7
Miscellaneous machinery and equipment.....	109.6	117.0	126.0	142.1	152.1
Office and store machinery.....	106.0	111.5	112.0	124.6	141.3
Transportation equipment.....	106.5	111.7	124.2	137.5	150.7
Aircraft and parts.....	96.0	88.4	96.8	93.4	114.2
Motor vehicles.....	108.1	123.3	141.7	163.7	173.8
Assembling.....	109.3	127.0	145.3	170.8	174.9
Parts and accessories.....	106.3	119.2	138.9	158.3	173.7
Shipbuilding and repair.....	121.2	123.7	118.4	128.5	135.5
Electrical products.....	109.9	114.5	119.4	128.1	142.0
Major appliances (incl. non-electric).....	103.2	105.3	114.7	119.8	124.9
Household radios and televisions.....	114.7	120.1	129.3	144.7	160.7
Communications equipment.....	115.5	118.9	121.8	130.2	150.5
Non-metallic mineral products.....	105.7	108.3	113.1	121.3	125.4
Concrete products.....	113.4	114.4	124.3	143.1	142.8
Clay products.....	105.3	102.2	105.3	118.6	112.8
Glass and glass products.....	101.9	109.1	111.9	110.0	124.5
Petroleum and coal products.....	98.8	96.6	97.0	97.2	99.6
Petroleum refineries.....	96.5	92.9	91.8	89.6	88.7
Chemicals and chemical products.....	100.4	102.0	105.5	111.1	117.2
Pharmaceuticals and medicines.....	102.2	103.8	107.7	112.9	122.0
Paints and varnishes.....	99.3	97.1	98.5	92.5	105.3
Sap and cleaning compounds.....	106.1	106.4	104.6	104.1	103.0
Industrial chemicals.....	97.7	102.0	106.1	111.5	116.5
Miscellaneous manufacturing industries.....	107.2	110.8	117.1	121.5	131.3
Construction.....	101.8	100.9	105.8	119.7	132.1
Building.....	102.4	101.0	105.2	120.5	131.5
General contractors.....	99.9	96.6	100.5	114.7	123.4
Special trade contractors.....	105.3	106.0	110.6	127.0	140.4
Engineering.....	101.4	100.8	106.6	118.0	133.3
Highways, bridges and streets.....	99.8	95.8	107.5	115.9	119.8
Other engineering.....	103.0	106.0	105.8	120.2	147.3
Transportation, Communication and Other Utilities.....	99.4	100.1	101.5	103.9	106.7
Transportation.....	98.6	98.1	99.3	101.3	102.6
Air transport and services.....	101.1	98.3	100.8	104.2	119.7
Water transport and services.....	99.7	100.2	102.7	105.2	106.6
Railway transport.....	97.6	95.6	96.5	96.1	94.9
Maintenance of equipment.....	99.2	97.0	101.3	101.9	100.6
Maintenance of way and structures.....	93.9	91.9	91.5	85.5	83.8
Railway transportation.....	98.4	96.4	96.5	97.8	97.0

8.—Annual Average Index Numbers of Employment, by Industrial Division and Group, 1962-66—concluded

Industry	1962	1963	1964	1965	1966
Transportation, Communication and Other Utilities—concluded					
Transportation—concluded					
Truck transport.....	97.8	103.7	108.2	118.2	119.4
Bus transport, interurban and rural.....	94.3	95.7	97.7	102.5	110.8
Urban transit.....	98.5	99.1	99.4	110.0	106.4
Highway and bridge maintenance.....	98.7	96.8	97.4	98.7	99.5
Storage.....	96.2	99.1	104.4	115.6	113.4
Grain elevators.....	95.3	98.5	103.8	104.9	111.5
Other storage and warehousing.....	100.2	101.4	106.8	114.5	118.9
Communication.....	101.2	103.4	105.5	108.9	116.4
Radio and television broadcasting.....	103.3	105.0	108.7	111.6	117.2
Telephone.....	100.7	103.8	106.1	110.9	121.8
Telegraph and cable.....	100.9	99.0	97.4	96.4	95.8
Post office.....	101.8	103.5	105.5	107.9	112.3
Electric power, gas and water.....	103.9	105.5	106.3	108.6	109.4
Electric power.....	103.2	104.1	105.0	107.4	110.5
Gas distribution.....	109.6	112.9	111.5	112.6	102.1
Trade.....	101.2	103.5	108.1	114.3	122.1
Wholesale.....	101.1	102.4	105.4	110.8	117.5
Retail.....	101.7	104.4	109.6	116.2	124.8
Food stores.....	101.5	104.9	112.3	117.5	125.9
Department stores.....	100.8	104.8	110.2	115.5	126.3
Variety stores.....	98.0	98.3	105.2	118.7	125.1
Automotive product stores.....	102.9	107.5	113.7	124.7	131.6
Finance, Insurance and Real Estate.....	103.2	107.6	111.9	116.6	120.5
Financial institutions.....	103.4	108.4	113.6	120.0	124.4
Insurance and real estate.....	102.3	105.8	108.8	111.5	114.9
Insurance carriers.....	102.0	105.0	107.4	109.6	112.0
Service.....	101.7	106.1	114.7	125.9	139.1
Recreational services.....	100.9	104.5	109.6	116.9	127.6
Business services.....	103.1	109.0	120.6	137.3	156.7
Personal services.....	100.9	104.9	112.1	120.0	130.4
Miscellaneous services.....	103.0	107.4	118.5	136.9	153.9
Industrial Composite.....	102.2	104.4	108.2	114.3	120.7

9.—Annual Average Index Numbers of Employment, by Province, 1962-66, and Monthly Indexes 1966

NOTE.—These indexes refer to the last week of each month and are on the base 1961=100.

Year and Month	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
Averages—											
1962.....	100.1	105.3	100.4	99.8	101.7	103.0	100.4	100.7	102.0	102.1	102.2
1963.....	102.0	101.8	101.1	100.6	103.0	105.4	101.6	102.4	102.3	104.9	104.4
1964.....	107.6	105.9	103.6	104.6	107.5	110.1	103.4	105.1	106.1	109.4	108.2
1965.....	118.0	112.2	108.6	109.7	112.8	116.5	106.0	110.4	112.6	118.2	114.3
1966.....	126.2	124.4	113.0	115.2	118.1	123.3	111.2	116.5	120.5	126.2	120.7
1966—											
January.....	110.6	102.3	107.9	108.9	112.1	117.6	105.8	108.3	112.9	118.7	114.4
February.....	110.1	103.2	106.1	107.3	112.1	117.7	105.3	108.2	114.0	120.3	114.5
March.....	112.2	100.7	106.1	107.1	111.9	118.4	106.3	109.0	115.5	121.6	115.0
April.....	114.2	111.1	108.1	106.3	114.0	120.5	106.8	112.0	113.9	123.1	116.7
May.....	123.5	134.1	113.4	114.0	117.6	123.5	110.3	117.0	118.5	125.1	120.3
June.....	138.5	136.0	116.9	123.3	121.4	126.9	114.1	120.8	124.0	129.2	124.4
July.....	143.2	140.6	118.3	124.1	121.3	123.7	115.7	123.4	127.0	133.8	123.9
August.....	141.7	136.9	117.7	124.5	123.0	127.3	115.6	123.8	126.6	133.0	125.7
September.....	138.8	134.4	117.1	119.1	122.4	126.7	114.0	121.6	125.4	130.6	124.7
October.....	134.4	139.5	117.0	117.3	122.0	126.6	114.7	120.7	123.6	128.8	124.2
November.....	129.1	133.2	115.7	116.6	121.5	126.9	114.2	119.3	123.0	127.0	123.8
December.....	117.9	120.2	112.0	113.9	117.6	124.0	112.1	114.2	121.5	122.7	120.3

10.—Annual Average Index Numbers of Employment, by Metropolitan Area, 1962-66, and Monthly Indexes 1966

NOTE.—These indexes refer to the last week of each month and are on the base 1961=100.

Year and Month	Montreal	Quebec	Toronto	Ottawa-Hull	Hamilton	Windsor	Winnipeg	Vancouver
Averages—								
1962.....	101.5	103.4	102.9	102.3	104.1	98.8	99.4	101.0
1963.....	103.0	106.4	105.8	103.2	107.3	105.5	101.2	104.3
1964.....	107.7	108.1	110.5	106.1	113.4	116.8	104.1	109.6
1965.....	114.0	113.0	115.8	111.5	119.8	132.7	107.4	117.9
1966.....	120.8	115.8	123.8	117.3	123.7	149.3	114.4	124.3
1966—								
January.....	115.4	112.4	117.5	110.7	119.5	142.6	109.4	119.8
February.....	116.1	112.5	118.0	110.9	119.0	141.2	109.0	120.9
March.....	117.2	112.8	118.3	112.4	119.5	146.3	110.5	122.6
April.....	118.7	113.7	121.6	113.1	120.5	147.4	110.3	124.1
May.....	120.7	113.9	124.3	117.0	123.6	151.3	113.4	124.0
June.....	123.4	117.8	127.4	120.7	125.9	152.6	116.8	125.7
July.....	122.1	117.6	125.5	120.6	125.7	142.2	117.0	128.6
August.....	123.8	118.3	127.4	121.4	127.0	153.9	116.8	126.5
September.....	123.8	119.9	125.9	119.8	127.6	155.6	115.8	126.3
October.....	123.9	118.6	126.9	120.7	126.2	154.5	117.8	125.1
November.....	124.0	118.2	127.4	121.0	126.4	155.0	118.4	124.3
December.....	120.7	113.8	124.8	119.2	122.9	148.9	117.0	123.6

Weekly Wages and Salaries.—Average weekly wages and salaries have increased substantially in the years for which current payroll statistics have been collected, rising from \$23.44 in 1939 to \$91.01 in 1965 and \$96.30 in 1966. The upward movement gained momentum after the end of the War and average annual increases from 1946 to 1952 were more than twice as great as those between 1939 and 1946. After 1952 the rate of increase, in terms of year-to-year percentage changes, fell slightly below that recorded during the war years, particularly between 1959 and 1962, when average earnings rose at rates of about 3 p.c. per annum. Over the next four years the rate increased moderately and earnings in 1966 were 5.8 p.c. higher than in 1965.

11.—Annual Index Numbers of Employment and Average Weekly Wages and Salaries, by Industry, Province and Urban Area, 1964-66

Industry and Province	Employment (1961=100)			Average Weekly Wages and Salaries		
	1964	1965	1966	1964	1965	1966
Industry				\$	\$	\$
Forestry.....	102.8	104.2	106.2	92.13	96.81	104.78
Mining (incl. milling).....	98.8	105.1	106.9	105.73	111.53	119.55
Manufacturing.....	111.1	117.2	123.5	90.42	94.78	100.13
Durable goods ¹	116.7	126.0	134.9	97.96	102.97	107.77
Non-durable goods ¹	106.6	110.1	114.3	83.79	87.24	92.90
Construction.....	105.8	119.7	132.1	100.06	107.92	120.42
Transportation, communication and other utilities.....	101.5	103.9	106.7	93.32	98.77	103.41
Trade.....	108.1	114.5	122.1	71.01	73.49	76.86
Finance, insurance and real estate.....	111.9	116.6	120.5	81.88	88.29	93.00
Service.....	114.7	125.8	139.1	62.30	65.76	70.18
Industrial Composite.....	108.2	114.3	120.7	86.51	91.01	96.30
Province						
Newfoundland.....	107.6	118.0	126.2	77.42	80.22	84.72
Prince Edward Island.....	105.9	112.2	124.4	60.49	62.48	64.98
Nova Scotia.....	103.6	108.6	113.0	70.14	73.43	76.99
New Brunswick.....	104.6	109.7	115.2	71.01	74.76	79.26

For footnote, see end of table.

11.—Annual Index Numbers of Employment and Average Weekly Wages and Salaries, by Industry, Province and Urban Area, 1964-66—concluded

Province and Urban Area	Employment (1961=100)			Average Weekly Wages and Salaries		
	1964	1965	1966	1964	1965	1966
				\$	\$	\$
Province—concluded						
Quebec.....	107.5	112.9	118.1	84.46	88.62	94.75
St. John's, Nfld.....	110.1	116.5	123.3	89.82	94.41	99.37
Ontario.....	103.4	106.1	111.2	79.02	82.28	84.41
Manitoba.....	105.1	110.4	116.5	81.27	84.90	89.00
Saskatchewan.....	106.1	112.6	120.5	85.82	89.88	94.86
Alberta.....	109.4	118.2	126.2	94.11	100.71	107.33
British Columbia.....						
Urban Area						
Corner Brook, Nfld.....	103.5	114.2	113.4	87.34	89.92	97.94
St. John's, Nfld.....	110.5	126.3	138.9	66.72	69.94	75.83
Halifax, N.S.....	104.9	108.7	112.1	72.21	76.21	79.29
Sydney, N.S.....	95.9	99.9	99.7	83.66	83.77	89.17
Moncton, N.B.....	104.4	110.2	114.5	67.42	70.42	73.74
Saint John, N.B.....	99.0	104.4	109.1	72.12	76.36	78.81
Chicoutimi, Que.....	101.8	102.7	110.3	102.84	105.51	113.90
Drummondville, Que.....	121.3	125.9	118.4	69.71	73.47	76.61
Granby, Que.....	100.3	104.8	110.2	72.49	74.39	78.94
Montreal, Que.....	107.7	113.9	120.8	85.89	90.20	96.31
Ottawa, Ont.....	106.1	111.5	117.3	80.72	84.51	89.26
Ottawa, Ont.—Hull, Que.....	108.1	113.0	115.8	74.08	77.72	82.35
Quebec, Que.....	117.8	127.4	113.9	85.55	87.65	97.10
Rouyn-Noranda, Que.....	111.4	118.8	124.6	65.31	69.08	72.77
St. Hyacinthe, Que.....	97.8	116.2	126.3	72.84	76.12	80.57
St. Jean, Que.....	118.6	120.4	114.1	69.20	71.18	75.35
St. Jérôme, Que.....	99.5	106.1	109.2	90.68	94.42	103.15
Shawinigan, Que.....	113.6	116.7	116.2	73.68	77.14	82.02
Sherbrooke, Que.....	137.5	146.1	158.2	93.68	98.84	106.19
Sorel, Que.....	97.8	96.5	100.9	94.52	97.11	102.94
Thetford Mines, Que.....	109.9	112.2	116.9	79.91	81.74	90.89
Trois-Rivières, Que.....	105.3	119.9	135.4	84.90	89.46	96.29
Valleyfield, Que.....	109.0	109.2	114.9	76.01	80.90	85.11
Belleville, Ont.....	176.0	200.0	226.3	89.40	92.39	99.58
Brampton, Ont.....	112.0	126.3	134.1	81.76	88.46	92.64
Brantford, Ont.....	115.0	119.8	135.3	86.17	90.09	93.59
Brockville, Ont.....	111.8	122.0	125.0	86.27	90.41	95.04
Chatham, Ont.....	114.2	117.0	125.1	85.93	90.66	95.51
Cornwall, Ont.....	105.0	116.2	126.2	86.20	89.67	97.71
Fort William-Port Arthur, Ont.....	112.1	123.2	132.3	80.37	85.02	89.32
Guelph, Ont.....	113.4	119.8	123.7	94.76	99.28	103.47
Hamilton, Ont.....	114.9	122.0	125.3	87.24	89.95	94.82
Kingston, Ont.....	120.7	129.1	141.0	79.35	83.47	87.59
Kitchener, Ont.....	113.2	118.8	124.0	83.09	85.39	91.41
London, Ont.....	107.7	110.6	112.3	87.86	92.53	96.03
Niagara Falls, Ont.....	100.0	104.0	108.7	88.19	91.98	95.49
North Bay, Ont.....	130.3	148.1	142.4	106.29	117.59	113.00
Oshawa, Ont.....	118.4	114.2	132.8	94.69	98.34	103.42
Peterborough, Ont.....	108.8	131.9	139.9	99.30	106.39	106.80
St. Catharines, Ont.....	129.4	130.4	137.5	80.68	83.41	88.48
St. Thomas, Ont.....	106.4	111.2	124.8	111.63	116.35	126.95
Sarnia, Ont.....	112.0	115.7	120.3	106.20	110.92	112.65
Sault Ste. Marie, Ont.....	121.8	129.7	140.2	76.83	81.45	84.99
Stratford, Ont.....	90.2	100.0	98.8	97.22	101.90	108.41
Sudbury, Ont.....	94.8	93.8	96.9	77.16	82.06	98.91
Timmins, Ont.....	110.5	115.8	123.8	90.82	94.50	100.26
Toronto, Ont.....	104.6	110.5	111.3	105.58	108.22	112.78
Welland, Ont.....	116.8	132.7	149.3	101.03	107.31	112.45
Windsor, Ont.....	120.8	129.9	137.2	82.91	87.09	89.85
Woodstock, Ont.....	104.1	107.4	114.4	76.28	79.07	80.59
Winnipeg, Man.....	112.9	116.3	117.7	79.90	82.77	87.34
Regina, Sask.....	108.1	116.2	126.7	74.84	78.30	81.42
Saskatoon, Sask.....	106.8	115.3	126.1	86.65	89.80	93.64
Calgary, Alta.....	109.9	117.4	125.7	80.48	84.10	88.90
Edmonton, Alta.....	109.6	117.9	124.3	92.47	97.83	103.54
Vancouver, B.C.....	112.0	120.0	122.9	82.56	88.18	90.76
Victoria, B.C.....						

¹ Durable goods manufacturing includes wood products, furniture and fixtures, primary metal industries, metal fabricating industries, machinery (except electrical), transportation equipment, electrical products and non-metallic mineral products; non-durable goods manufacturing includes all other manufacturing industries.

12.—Annual Average Weekly Wages and Salaries, by Industrial Division, 1962-66, and Monthly Averages 1966

Year and Month	Forestry	Mining (incl. milling)	Manufacturing	Construction	Transportation, Communication and Other Utilities	Trade	Finance, Insurance and Real Estate	Service ¹	Industrial Composite
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Averages—									
1962.....	82.15	98.53	84.00	91.19	86.00	66.53	75.35	59.31	80.54
1963.....	87.02	101.96	86.90	95.27	89.71	68.80	77.63	60.44	83.27
1964.....	92.13	105.73	90.42	100.06	93.32	71.07	81.88	62.30	86.51
1965.....	96.81	111.53	94.78	107.92	98.77	73.49	88.29	65.76	91.01
1966.....	104.78	119.55	100.13	120.42	103.41	76.86	93.00	70.18	96.30
1966—									
January.....	95.91	118.18	97.78	113.38	102.22	75.12	90.76	68.14	93.79
February.....	106.64	119.10	98.91	116.40	103.49	76.00	90.88	69.29	95.09
March.....	105.34	118.83	99.44	117.35	101.96	75.97	92.37	69.13	95.12
April.....	109.12	116.80	99.90	118.69	103.78	76.56	93.04	69.54	95.90
May.....	101.83	117.60	99.70	120.14	103.44	76.72	92.93	69.29	95.99
June.....	98.47	117.25	99.22	119.11	103.45	77.47	93.48	70.00	95.96
July.....	101.13	116.83	99.24	123.10	105.13	78.00	92.72	70.57	96.67
August.....	104.43	117.94	100.05	124.79	88.58	77.86	93.27	70.02	94.52
September....	108.94	121.10	101.78	126.49	106.52	77.35	93.70	70.58	98.36
October.....	108.32	122.58	102.86	129.75	108.15	77.62	93.90	71.55	99.43
November....	111.38	123.45	103.03	126.43	106.87	76.77	94.31	72.15	58.81
December....	105.90	124.94	99.68	109.45	107.32	76.86	94.67	71.91	95.97

¹ Mainly hotels, restaurants, laundries, dry-cleaning establishments and recreational and business services.

Hours and Earnings of Hourly Rated Wage-Earners.—The monthly survey of employment and payrolls covers statistics of hours of work and paid absence of those wage-earners for whom records of hours are maintained, together with the corresponding totals of gross wages paid. These wage-earners are mainly hourly rated production workers; information on hours is frequently not kept by employers for ancillary workers nor, in many industries and establishments, for any wage-earners. Salaried employees are excluded by definition from the series. As a result of these exclusions, data are available for fewer industries and workers than are covered in the employment and average weekly wage and salary statistics.

During the period 1962-66, there was little change in average weekly hours but average hourly and weekly wages rose substantially. For the most part, upward wage-rate revisions in all industries were responsible for the increases. Technological changes, which in many cases involve the employment of more highly skilled workers at the expense of those in the lower-paid occupations, also contributed to the advance of average hourly earnings. From 1962 to 1966, average weekly wages rose 19.4 p.c. in manufacturing, 21.2 p.c. in mining and 33.6 p.c. in construction. Average hourly earnings increased 19.7 p.c. in manufacturing, 19.7 p.c. in mining and 30.7 p.c. in construction. In construction, 1966 average hourly earnings of \$2.81 and average weekly wages of \$118.02 represented increases of 10.6 p.c. and 12.2 p.c., respectively, over the 1965 levels.

13.—Annual Average Weekly Hours and Earnings of Hourly Rated Wage-Earners in Specified Industries, 1962-66, and Monthly Averages 1966

Year and Month	All Manufactures			Mining (incl. milling)			Construction		
	Average Weekly Hours	Average Hourly Earnings	Average Weekly Wages	Average Weekly Hours	Average Hourly Earnings	Average Weekly Wages	Average Weekly Hours	Average Hourly Earnings	Average Weekly Wages
	No.	\$	\$	No.	\$	\$	No.	\$	\$
Averages—									
1962.....	40.7	1.88	76.75	41.7	2.18	90.98	41.1	2.15	88.33
1963.....	40.8	1.95	79.51	42.0	2.24	93.87	41.2	2.24	92.20
1964.....	41.0	2.02	82.66	42.2	2.31	97.43	41.4	2.35	97.39
1965.....	41.0	2.12	86.89	42.5	2.43	103.30	41.4	2.54	105.15
1966.....	40.8	2.25	91.65	42.3	2.61	110.29	42.0	2.81	118.02
1966—									
January.....	40.9	2.19	89.65	42.9	2.55	109.48	40.1	2.74	109.83
February.....	41.2	2.20	90.76	43.0	2.57	110.35	41.4	2.75	113.38
March.....	41.2	2.22	91.24	42.6	2.57	109.63	41.4	2.78	114.96
April.....	41.0	2.23	91.72	41.6	2.56	106.52	41.7	2.79	116.35
May.....	40.9	2.23	91.37	42.0	2.58	108.45	42.5	2.77	117.71
June.....	40.7	2.23	90.82	42.0	2.58	108.51	42.8	2.73	116.90
July.....	40.6	2.23	90.46	41.6	2.57	106.73	44.3	2.74	121.55
August.....	41.1	2.24	91.95	42.0	2.58	108.29	44.3	2.78	123.31
September....	41.2	2.27	93.65	42.5	2.64	112.28	44.2	2.84	125.24
October.....	41.2	2.29	94.49	42.7	2.66	113.60	44.3	2.91	128.78
November....	41.0	2.31	94.43	42.5	2.69	114.18	42.5	2.94	124.82
December....	38.5	2.31	89.24	42.0	2.75	115.45	35.0	2.95	103.44

14.—Average Weekly Hours and Earnings of Hourly Rated Wage-Earners in Specified Industries and Selected Urban Areas, 1964-66

Industry	Average Weekly Hours			Average Hourly Earnings			Average Weekly Wages		
	1964	1965	1966	1964	1965	1966	1964	1965	1966
	No.	No.	No.	\$	\$	\$	\$	\$	\$
Industry									
Mining (incl. milling)	42.2	42.5	42.3	2.31	2.43	2.61	97.43	103.30	110.29
Metal mining.....	41.7	41.9	41.6	2.39	2.52	2.72	99.48	105.76	112.99
Coal mining.....	42.2	41.3	42.4	1.92	1.96	2.02	80.84	80.68	85.53
Manufacturing	41.0	41.0	40.8	2.02	2.12	2.25	82.96	86.89	91.65
Durable goods ¹	41.6	41.7	41.3	2.20	2.31	2.43	91.60	96.11	100.31
Non-durable goods ¹	40.5	40.4	40.3	1.85	1.93	2.06	74.97	77.87	82.90
Construction	41.4	41.4	42.0	2.35	2.54	2.81	97.39	105.15	118.02
Building.....	39.5	39.4	39.8	2.45	2.62	2.86	95.43	103.23	114.09
Engineering.....	46.9	45.6	46.3	2.19	2.39	2.72	101.35	108.91	125.78
Other—									
Urban transit.....	42.9	42.8	42.9	2.32	2.45	2.66	99.65	104.63	114.26
Highway and bridge maintenance.....	39.8	40.1	40.8	1.81	1.89	1.99	71.49	75.87	81.18
Hotels, restaurants and taverns.....	36.6	36.1	35.1	1.17	1.22	1.31	42.70	44.16	45.98
Laundries, cleaners and pressers.....	39.8	39.2	39.0	1.15	1.23	1.31	45.64	48.02	50.97

¹ Durable goods manufacturing includes wood products, furniture and fixtures, primary metal industries, metal fabricating industries, machinery (except electrical), transportation equipment, electrical products and non-metallic mineral products; non-durable goods manufacturing includes all other manufacturing industries.

14.—Average Weekly Hours and Earnings of Hourly Rated Wage-Earners in Specified Industries and Selected Urban Areas, 1964-66—concluded

Province and Urban Area	Average Weekly Hours			Average Hourly Earnings			Average Weekly Wages		
	1964	1965	1966	1964	1965	1966	1964	1965	1966
	No.	No.	No.	\$	\$	\$	\$	\$	\$
Province Manufacturing									
Newfoundland.....	40.4	41.2	40.9	1.73	1.75	1.91	69.84	71.89	77.81
Nova Scotia.....	41.2	40.7	40.6	1.72	1.77	1.85	70.77	72.02	75.08
New Brunswick.....	41.2	41.6	41.9	1.68	1.75	1.86	68.97	72.96	77.85
Quebec.....	41.8	41.8	41.8	1.81	1.88	2.02	75.70	78.58	84.20
Ontario.....	41.2	41.1	40.8	2.13	2.25	2.37	87.84	92.32	96.44
Manitoba.....	40.3	40.4	40.0	1.78	1.84	1.94	71.62	74.13	77.65
Saskatchewan.....	39.4	39.9	39.8	2.10	2.15	2.28	82.69	85.55	90.91
Alberta.....	40.1	40.2	39.9	2.07	2.14	2.27	82.81	86.05	90.33
British Columbia.....	38.0	38.0	37.7	2.47	2.62	2.79	93.69	99.52	104.96
Selected Urban Area Manufacturing									
Montreal.....	41.1	41.2	41.2	1.85	1.93	2.05	76.10	79.34	84.41
Toronto.....	41.1	40.9	40.9	2.07	2.16	2.29	85.15	88.18	93.56
Hamilton.....	40.6	40.4	40.3	2.39	2.52	2.64	97.08	101.71	106.09
Windsor.....	42.7	42.1	42.2	2.52	2.67	2.82	107.68	112.57	118.78
Winnipeg.....	40.2	39.9	39.8	1.76	1.82	1.92	70.94	73.28	76.13
Vancouver.....	37.8	37.8	37.6	2.40	2.55	2.70	90.91	96.54	101.30

Subsection 2.—Earnings and Hours of Work in Manufacturing*

Since 1946 an annual survey of earnings and hours of work in manufacturing has been conducted using (since 1948) the last week of October as the survey week. Information is collected during this normal or representative working week of the year, following generally the same concepts, definitions and coverage as in the larger establishment monthly employment survey. If strikes or other unusual working conditions distort the norm for this week, a more suitable week is substituted. Over the whole period, earnings and hours of work in manufacturing have been reported by sex and category and since 1951 figures have been available for clerical and related workers as distinct from other salaried employees. In addition, the distribution of employees by weekly earnings has been collected periodically since 1950 and the distribution of wage-earners by hours worked or paid for were collected each year from 1946 to 1949 and periodically thereafter.

However, Tables 15 and 16 give figures for 1963-66 only, since at this point there was a break in continuity with previous years. The new establishment concept introduced in 1961 drew into the manufacturing universe some activity reports, such as sales branches, which formerly reported to other industries; these are now coded to manufacturing when they form part of an establishment, the principal activity of which is manufacturing. The survey was not carried out in 1961 and 1962 and revised figures are available only from 1963. Also, it should be noted that the 1966 survey data were collected and compiled on the revised (1960) standard industrial classification basis which classifies the manufacturing industries into 20 major industrial groups, replacing the 17 groups of the 1948 classification system. The new classification is used in Tables 17 and 18.

*More detailed information is given in DBS annual report *Earnings and Hours of Work in Manufacturing* (Catalogue No. 72-204).

15.—Average Earnings of Male and Female Employees in Manufacturing, Survey Week 1963-66, and Percentage Increases over Previous Year

NOTE.—Survey week is the last week of October. This survey was not conducted in 1961 and 1962 (see p. 769).

Year	Male		Female		Both Sexes	
	Average Earnings	Increase over Previous Year	Average Earnings	Increase over Previous Year	Average Earnings	Increase over Previous Year
AVERAGE HOURLY WAGES						
	\$	p.c.	\$	p.c.	\$	p.c.
1963.....	2.13	..	1.27	..	1.94	..
1964.....	2.21	3.7	1.33	4.7	2.02	4.1
1965.....	2.33	5.4	1.41	6.0	2.14	5.9
1966.....	2.50	7.3	1.51	7.1	2.29	7.0
AVERAGE WEEKLY WAGES						
	\$	p.c.	\$	p.c.	\$	p.c.
1963.....	90.04	..	49.31	..	80.79	..
1964.....	94.08	4.5	51.45	4.3	84.37	4.4
1965.....	99.50	5.8	54.88	6.7	89.39	5.9
1966.....	105.45	6.0	58.01	5.7	94.52	5.7
AVERAGE WEEKLY SALARIES						
	\$	p.c.	\$	p.c.	\$	p.c.
1963.....	128.67	..	64.24	..	111.40	..
1964.....	133.64	3.9	66.51	3.5	115.59	3.8
1965.....	139.01	4.0	69.35	4.3	120.30	4.1
1966.....	147.95	6.4	75.26	8.5	128.79	7.1

16.—Proportions of Male and Female Employees classified as Salaried Staff, Survey Week 1963-66

NOTE.—Survey week is the last week of October. This survey was not conducted in 1961 and 1962 (see p. 769).

Year	Durable Goods			Non-durable Goods			All Manufacturing		
	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1963.....	21.7	43.9	24.5	25.0	22.2	24.0	23.3	27.4	24.3
1964.....	21.4	43.6	24.2	25.2	22.1	24.1	23.2	27.3	24.2
1965.....	21.1	42.4	23.8	25.6	22.3	24.5	23.1	27.4	24.1
1966.....	23.1	42.9	25.8	28.0	23.4	26.5	25.3	28.8	26.1

17.—Average Hours and Earnings of Wage-Earners in Manufacturing, by Industry, Province and Selected Urban Area, Survey Week 1966

NOTE.—Survey week is the last week of October; based on the revised standard industrial classification.

Industry, Province and Urban Area	Average Weekly Hours			Average Hourly Earnings			Average Weekly Earnings		
	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes
	No.	No.	No.	\$	\$	\$	\$	\$	\$
Industry									
Food and beverages.....	41.7	37.3	40.5	2.16	1.44	1.98	89.87	53.58	80.04
Tobacco processing and products.....	38.9	36.6	37.7	2.72	2.46	2.59	105.70	89.94	97.44
Rubber products.....	43.2	38.4	42.0	2.49	1.65	2.31	107.37	63.48	96.86
Leather products.....	40.6	38.6	39.6	1.87	1.32	1.59	75.80	50.79	62.89
Textile products.....	43.6	39.6	42.2	1.94	1.49	1.79	84.77	58.88	75.67
Knitting mills.....	43.5	40.4	41.3	1.74	1.30	1.44	75.71	52.56	59.36
Clothing.....	39.6	37.0	37.6	2.15	1.39	1.55	85.32	51.36	58.29
Wood products.....	41.4	40.0	41.3	2.15	1.66	2.12	89.15	62.29	87.70
Furniture and fixtures.....	43.7	40.3	43.2	1.93	1.48	1.87	84.34	59.81	80.86
Paper and allied industries.....	42.4	39.5	42.1	2.83	1.55	2.71	120.00	61.21	114.05
Printing, publishing and allied industries.....	39.4	36.9	38.8	3.05	1.62	2.74	120.37	59.68	106.53
Primary metal industries.....	40.9	38.0	40.9	2.87	1.87	2.86	117.53	71.03	116.99
Metal fabricating industries.....	42.8	38.8	42.5	2.52	1.58	2.45	108.18	61.45	104.18
Machinery (except electrical).....	42.8	39.2	42.6	2.63	1.83	2.60	112.57	71.73	110.68
Transportation equipment.....	42.8	39.3	42.6	2.78	1.85	2.72	119.04	72.60	115.83
Electrical products.....	42.5	39.1	41.3	2.50	1.78	2.27	106.07	69.59	93.69
Non-metallic mineral products.....	44.8	39.8	44.4	2.44	1.77	2.40	109.42	70.52	106.37
Petroleum and coal products.....	44.0	33.6	43.9	3.28	1.39	3.27	144.13	46.59	143.35
Chemicals and chemical products.....	41.9	38.9	41.4	2.67	1.61	2.49	112.12	62.71	103.18
Miscellaneous manufacturing industries.....	42.6	39.7	41.4	2.15	1.42	1.86	91.73	56.28	76.92
Totals, Manufacturing	42.2	38.4	41.3	2.50	1.51	2.29	105.45	58.01	94.52
Durable goods ¹	42.5	39.2	42.1	2.56	1.73	2.48	108.79	67.95	104.51
Non-durable goods ¹	41.9	38.1	40.6	2.41	1.45	2.09	101.06	55.17	84.97
Province									
Newfoundland.....	40.4	37.6	40.1	2.04	0.90	1.92	82.28	33.66	76.74
Nova Scotia.....	40.7	37.1	40.1	2.00	1.03	1.84	81.55	38.19	73.62
New Brunswick.....	42.6	37.2	41.6	2.00	1.12	1.86	85.22	41.67	77.23
Quebec.....	43.7	38.4	42.2	2.27	1.43	2.05	98.92	55.03	86.70
Ontario.....	42.2	38.6	41.4	2.63	1.60	2.41	111.05	61.87	99.93
Manitoba.....	41.3	37.6	40.2	2.25	1.38	2.02	93.05	52.00	81.49
Saskatchewan.....	41.9	36.7	41.2	2.44	1.58	2.34	102.08	57.82	96.35
Alberta.....	41.0	37.2	40.4	2.44	1.51	2.30	99.97	56.03	93.12
British Columbia.....	38.7	36.1	38.4	2.96	1.76	2.84	114.72	63.42	109.12
Selected Urban Area									
Montreal.....	43.3	38.2	41.6	2.35	1.52	2.10	101.56	58.04	87.16
Toronto.....	42.5	39.1	41.5	2.63	1.59	2.35	111.83	62.31	97.35
Hamilton.....	40.5	38.0	40.1	2.87	1.60	2.69	116.13	60.90	107.87
Windsor.....	44.2	39.6	43.7	2.91	1.97	2.82	128.72	78.14	123.33
Winnipeg.....	41.1	37.6	40.0	2.24	1.42	2.01	92.12	53.21	80.63
Vancouver.....	38.6	36.1	38.2	2.93	1.79	2.74	113.01	64.68	104.67

¹ The durable goods group includes wood products, furniture and fixtures, primary metal industries, metal fabricating industries, machinery (except electrical), transportation equipment, electrical products and non-metallic mineral products; the non-durable goods group includes all other manufacturing industries.

18.—Average Weekly Hours and Earnings of Salaried Employees and Earnings of Clerical and Other Salaried Classes in Manufacturing, Survey Week 1966

Note.—Survey week is the last week of October; based on the revised standard industrial classification.

Industry, Province and Urban Area	All Salaried Employees				Clerical and Related Workers				Other Salaried Employees			
	Average Weekly Hours		Average Weekly Earnings		Average Weekly Earnings		Average Weekly Earnings		Average Weekly Earnings		Average Weekly Earnings	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
No.	No.	No.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Industry												
Food and beverages.....	38.8	36.9	130.78	70.80	115.03	101.88	69.29	83.88	141.34	90.37	139.62	139.62
Tobacco processing and products.....	37.3	36.8	154.31	94.72	135.73	112.75	94.98	101.27	164.72	94.18	145.99	145.99
Rubber products.....	38.6	38.1	131.84	73.20	118.71	107.75	72.16	89.26	147.14	90.50	145.75	145.75
Leather products.....	39.4	37.0	122.19	63.33	101.57	98.84	61.89	77.35	137.19	76.59	132.36	132.36
Textile products.....	38.3	37.3	141.23	68.78	119.25	96.52	66.78	77.79	154.45	85.25	150.45	150.45
Knitting mills.....	39.9	37.6	128.27	65.35	101.15	100.77	62.88	74.67	143.00	82.72	133.30	133.30
Clothing.....	39.3	37.6	129.57	72.56	104.33	96.67	67.47	77.23	143.96	88.87	132.19	132.19
Wood products.....	41.0	37.5	140.26	70.12	126.51	106.21	66.79	80.63	153.68	86.16	151.97	151.97
Furniture and fixtures.....	38.8	37.3	133.30	67.25	112.42	99.68	68.92	81.33	153.19	86.79	151.45	151.45
Paper and allied industries.....	36.8	36.1	167.70	79.78	146.80	113.94	78.14	96.84	192.59	100.72	189.64	189.64
Printing, publishing and allied industries.....	36.6	35.6	140.81	72.38	114.62	98.23	67.35	79.30	159.57	92.99	150.48	150.48
Primary metal industries.....	38.6	37.7	138.3	81.36	150.71	121.40	79.36	92.61	185.08	102.51	183.44	183.44
Metal fabricating industries.....	38.6	37.4	144.12	72.22	127.09	109.36	71.20	82.63	165.65	101.82	163.48	163.48
Machinery (except electrical).....	39.9	38.6	145.35	76.39	129.47	110.48	75.73	94.81	164.52	108.81	178.86	178.86
Transportation equipment.....	40.9	39.3	157.87	85.83	142.99	123.82	85.14	108.63	179.73	108.81	165.97	165.97
Electrical products.....	38.5	38.5	147.31	76.00	129.48	121.16	74.86	101.64	167.66	109.93	157.18	157.18
Non-metallic mineral products.....	38.4	37.0	181.82	72.60	126.93	107.57	71.82	92.24	159.37	82.69	151.06	151.06
Petroleum and coal products.....	36.0	35.6	186.11	89.30	160.83	120.98	86.90	102.97	213.96	134.05	217.96	217.96
Chemicals and chemical products.....	37.7	37.2	155.19	79.30	134.20	107.59	75.44	88.53	170.03	116.14	167.58	167.58
Miscellaneous manufacturing industries.....	39.2	37.8	144.68	71.35	122.15	106.07	69.84	84.07	158.99	96.16	156.87	156.87
Totals, Manufacturing.....	38.8	37.4	147.95	75.26	128.79	111.52	73.39	97.49	165.59	95.81	162.60	162.60
Durable goods ¹	39.6	38.2	150.14	76.92	133.57	116.46	75.95	99.06	170.07	98.63	168.68	168.68
Non-durable goods ¹	38.0	36.8	145.72	74.10	124.39	104.85	71.46	85.69	161.57	95.06	157.46	157.46
Province	Average Weekly Hours		Average Weekly Earnings		Average Weekly Earnings		Average Weekly Earnings		Average Weekly Earnings		Average Weekly Earnings	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	No.	No.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Newfoundland.....	39.4	38.0	121.76	60.69	110.06	95.26	62.32	81.98	133.45	49.59	129.94	129.94
Nova Scotia.....	38.7	37.0	122.81	58.87	108.21	93.21	58.05	78.01	139.68	70.49	137.63	137.63
New Brunswick.....	39.1	37.6	130.17	60.18	113.56	93.73	60.86	79.13	149.66	54.45	145.08	145.08
Quebec.....	38.5	37.4	145.80	76.30	127.66	100.69	73.68	92.79	165.99	99.45	162.46	162.46
Ontario.....	38.9	37.4	151.91	76.57	131.37	114.93	74.93	94.02	169.03	96.90	166.19	166.19
Manitoba.....	39.0	37.4	126.22	62.21	108.88	93.76	61.09	76.04	139.57	77.08	137.34	137.34
Saskatchewan.....	38.9	37.5	124.70	69.11	109.57	91.86	67.99	78.00	135.93	81.44	133.76	133.76
Alberta.....	39.2	37.7	132.51	67.62	117.84	105.08	66.87	87.38	144.86	76.05	142.56	142.56
British Columbia.....	38.6	37.3	158.18	75.76	139.01	117.22	73.61	94.91	173.20	103.16	171.16	171.16
Selected Urban Area	Average Weekly Hours		Average Weekly Earnings		Average Weekly Earnings		Average Weekly Earnings		Average Weekly Earnings		Average Weekly Earnings	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	No.	No.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Montreal.....	38.3	37.1	151.37	79.60	131.63	112.07	77.02	94.98	173.38	103.20	169.53	169.53
Toronto.....	38.4	37.0	155.95	80.08	133.07	115.11	77.87	94.12	173.80	102.60	170.05	170.05
Hamilton.....	39.2	38.3	159.15	77.25	137.59	124.19	76.56	102.22	182.74	96.24	180.96	180.96
Windsor.....	41.4	39.1	169.91	89.88	152.09	139.32	89.35	114.46	191.70	100.19	189.68	189.68
Winnipeg.....	38.7	37.4	124.94	62.68	107.68	92.81	61.55	75.69	138.35	77.57	138.10	138.10
Vancouver.....	38.2	37.2	155.34	76.73	134.98	112.31	74.21	91.96	172.18	106.94	169.82	169.82

Subsection 3.—Estimates of Employment*

Estimates of total employment in establishments in the commercial sector of industry were published for the first time in 1965. Results of a monthly survey of employment in a sample of small firms initiated in 1961 were added to data from the long-standing employment and earnings survey to produce estimates of total employment by industrial division.

The estimates of employees are published for those eight major industrial divisions for which monthly and annual data are released in the publication *Employment and Average Weekly Wages and Salaries*. They are considered, for most purposes, to be more reliable indicators of changes of employment than the larger establishment employment indexes. However, the nature of the sample survey does not permit the publication of industry detail below industrial division level nor of geographic detail below the provincial level at this time. It is planned at a later date to extend the estimates to cover all non-agricultural industries.

19.—Estimates of Numbers of Employees, by Industrial Division, 1962-66, and by Month 1966

Year and Month	Forestry	Mining (incl. mill-ing)	Manufacturing			Con-struc-tion	Trans- portation, Communication and Other Utilities	Trade	Finance, Insurance and Real Estate	Service (com-mer-cial sector) ¹	Total
			Dur-able	Non-dur-able	Total						
	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000
Annual Average—											
1962.....	69.9	107.9	614.2	732.5	1,346.7	291.3	581.2	761.2	204.9	393.3	3,756.4
1963.....	67.9	106.1	647.9	747.3	1,395.2	297.5	586.4	790.2	215.8	415.6	3,875.4
1964.....	70.7	107.4	689.6	774.3	1,464.0	315.6	602.8	821.7	227.0	449.1	4,058.5
1965.....	71.6	114.2	741.6	793.6	1,535.2	349.5	619.6	864.3	235.3	493.0	4,283.2
1966.....	72.3	116.7	793.7	824.9	1,618.5	373.1	637.8	910.9	244.3	540.6	4,514.3
1966—											
January...	64.1	114.9	763.5	788.9	1,552.3	309.8	599.4	874.8	239.1	496.4	4,250.6
February...	60.5	115.0	770.8	794.8	1,565.6	311.3	597.7	871.3	239.1	501.9	4,262.5
March.....	51.6	115.4	775.3	800.2	1,575.5	318.4	599.2	879.8	239.9	510.2	4,290.0
April.....	47.6	113.7	780.6	802.0	1,582.6	345.0	616.6	891.4	241.3	519.6	4,357.8
May.....	66.1	118.2	799.0	821.9	1,620.8	387.3	635.9	904.8	243.1	539.5	4,515.6
June.....	83.2	123.2	815.3	845.0	1,660.3	415.8	659.7	920.6	245.1	567.2	4,675.1
July.....	89.6	113.7	788.3	842.6	1,630.9	429.0	668.7	917.0	248.4	580.2	4,677.4
August.....	87.1	122.3	806.4	864.0	1,670.4	423.5	669.6	912.8	247.9	580.3	4,713.8
September...	84.4	117.4	809.8	855.5	1,665.2	414.8	664.8	919.9	246.4	558.5	4,671.4
October...	82.4	116.6	811.4	845.8	1,657.2	412.7	655.5	932.9	247.0	553.9	4,658.1
November...	80.4	116.1	811.0	834.4	1,645.4	385.9	648.4	950.3	247.6	543.8	4,617.7
December...	70.8	113.7	792.8	803.6	1,596.4	324.2	638.4	955.1	246.6	536.1	4,481.4

¹ Includes health services (except hospitals); motion picture and recreational services; services to business management; personal services (except domestic service); and miscellaneous services.

Subsection 4.—Estimates of Labour Income†

Wages and salaries, as shown in Table 20, include living allowances, bonuses, commissions and "tips" and are measured prior to deductions of all kinds (income tax, employees' contributions to the unemployment insurance fund and to welfare and pension funds, etc.). Both money payments and payments in kind (i.e., free board and lodging) made to, or on behalf of, residents of Canada, excluding military pay and allowances, are included in the

*More detailed information is given in DBS monthly publication *Estimates of Employees by Province and Industry* (Catalogue No. 72-008).

†More detailed information is given in DBS monthly publication *Estimates of Labour Income* (Catalogue No. 72-005).

total of wages and salaries. Retroactive wage payments are included in the month in which they are paid. Supplementary labour income comprises payments made by employers on behalf of their employees in order to provide them with future benefits, either definite or contingent. Specifically, these payments include employers' contributions to employee welfare and pension funds, to workmen's compensation and industrial vacation funds, and to the unemployment insurance fund. Contributions to Armed Forces pension funds are also included.

20.—Wages and Salaries, by Industry, and Supplementary Labour Income, 1962-66, and by Month 1966

NOTE.—Based on the unrevised standard industrial classification. Figures are unadjusted for seasonal variation.

(Millions of dollars)

Year and Month	Agriculture, Fishing and Trapping	Forestry	Mining	Manufacturing	Construction	Transportation, Storage and Communication	Public Utilities
Annual Average—							
1962.....	227	300	559	5,699	1,357	1,909	378
1963.....	235	308	572	6,045	1,419	2,008	397
1964.....	244	343	600	6,582	1,582	2,129	421
1965.....	252	378	678	7,262	1,962	2,316	455
1966.....	260	410	737	8,090	2,448	2,513	486
1966—							
January.....	13.0	27.8	60.2	632.8	158.5	201.1	38.2
February.....	13.0	30.5	60.6	644.7	164.0	193.8	38.3
March.....	14.7	26.4	60.8	652.0	170.6	190.9	37.1
April.....	17.3	25.6	58.3	657.4	181.8	200.0	38.1
May.....	22.0	32.4	61.0	669.5	205.4	205.1	39.5
June.....	26.7	31.7	63.2	683.7	220.1	211.7	41.2
July.....	32.7	40.8	59.2	673.0	234.3	220.0	41.9
August.....	34.4	41.4	62.0	691.4	235.8	201.6	41.4
September.....	29.0	42.0	61.8	700.6	235.8	220.6	41.9
October.....	22.8	40.0	62.8	703.6	241.8	229.2	42.6
November.....	18.0	39.2	63.3	700.4	220.6	223.7	42.5
December.....	16.0	32.3	63.9	681.1	179.2	215.2	43.6
	Trade	Finance, Insurance and Real Estate	Service	Government Non-military	Total Wages and Salaries	Supplementary Labour Income	Total Labour Income
Annual Average—							
1962.....	2,881	889	3,363	1,828	19,390	843	20,233
1963.....	3,089	955	3,697	1,949	20,674	873	21,547
1964.....	3,358	1,046	4,137	2,065	22,507	926	23,433
1965.....	3,714	1,134	4,690	2,220	25,061	975	26,036
1966.....	4,125	1,230	5,340	2,486	28,125	1,203	29,328
1966—							
January.....	322.2	98.5	417.9	191.7	2,161.9	97.3	2,259.2
February.....	323.7	99.3	426.7	187.4	2,182.0	97.6	2,279.6
March.....	326.9	100.0	433.0	190.5	2,202.9	98.0	2,300.9
April.....	333.2	100.7	440.6	199.2	2,252.2	98.8	2,351.0
May.....	337.6	101.4	448.8	199.5	2,322.2	99.8	2,422.0
June.....	346.6	102.1	459.5	209.0	2,395.5	100.8	2,496.3
July.....	345.6	102.9	414.5	217.3	2,382.2	100.7	2,482.9
August.....	345.6	103.6	424.8	231.3	2,413.3	101.2	2,514.5
September.....	350.3	104.3	467.1	217.6	2,471.0	102.2	2,573.2
October.....	357.3	105.0	468.2	212.9	2,486.2	102.7	2,588.9
November.....	365.7	105.7	469.5	212.7	2,461.3	102.5	2,563.8
December.....	370.6	106.4	469.0	217.1	2,394.4	101.7	2,496.1

Section 4.—Wage Rates, Hours of Labour and Other Working Conditions

Statistics on occupational wage rates by industry and locality, with standard weekly hours of labour, are compiled by the Canada Department of Labour and published in the annual report *Wage Rates, Salaries and Hours of Labour*. The statistics are based on an annual survey covering some 35,000 establishments in most industries and apply to the last normal pay period preceding Oct. 1. Average wage rates of time workers and average straight-time earnings of piece workers and other incentive workers for selected occupations are shown separately in the report but are combined in the calculation of industry index numbers shown in Table 21. Predominant ranges of rates for each occupation used are also given; overtime pay is excluded.

The index numbers of Table 21 measure changes in wage rates for non-office employees below the rank of foreman. They do not, however, provide a basis for comparing the level of wages in one industry with that in another. Information on concepts and methods of developing these statistics is given in the annual report.

21.—Index Numbers of Average Wage Rates for Certain Main Industrial Groups, 1961-66

(1961=100)

NOTE.—Figures for years prior to 1961 are not available on the 1961 base; indexes for 1956-65 on the 1949 base are given in the 1967 Year Book at p. 763 and indexes back to 1901 on the same base appear in the Department of Labour publication *Wage Rates, Salaries and Hours of Labour 1965*.

Year	Log- ging	Mining	Manufacturing			Con- struc- tion	Trans- porta- tion, etc.	Trade	Service	Local Gov- ern- ment	Gen- eral Index
			Dur- able Goods	Non- durable Goods	All Manu- factur- ing						
1961.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1962.....	103.9	104.0	102.1	103.3	102.7	105.0	103.1	103.5	101.9	103.3	103.1
1963.....	110.1	107.0	105.1	106.7	106.0	109.1	106.0	107.9	106.6	107.4	107.0
1964.....	117.5	109.6	108.9	110.5	109.7	113.9	109.8	111.0	111.7	111.5	110.9
1965.....	126.4	113.3	114.4	115.5	115.0	119.8	114.3	116.9	118.4	118.1	116.5
1966.....	140.2	122.7	121.2	121.9	121.6	129.8	122.3	123.9	125.5	124.6	124.0

22.—Average Wage and Salary Rates for Selected Occupations in Certain Cities Across Canada, Oct. 1, 1966

Industry and Occupation	Halifax, N.S.	Saint John, N.B.	Sher- brooke, Que.	Montreal, Que.	Toronto, Ont.	Hamilton, Ont.
	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.
Construction (building and structures only)—						
Bricklayer and mason.....	2.82	2.60	2.85	3.60	3.75	3.78
Bulldozer operator.....	—	1.75	2.55	2.95	3.75	3.15
Carpenter.....	2.54	2.45	2.65	3.39	3.68	3.68
Cement finisher.....	—	2.60	2.40	3.16	3.53	3.53
Crane operator.....	2.45	2.00	2.45	3.67	3.75	—

**22.—Average Wage and Salary Rates for Selected Occupations in Certain Cities
Across Canada, Oct. 1, 1966—continued**

Industry and Occupation	Halifax, N.S.	Saint John, N.B.	Sher- brooke, Que.	Montreal, Que.	Toronto, Ont.	Hamilton, Ont.
	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.
Construction (building and structures only— concluded)						
Electrician.....	2.78	2.60	2.80	3.65	4.40	4.25
Labourer.....	1.91	1.45	2.15	2.95	2.70	2.55
Marble and tile setter.....	2.82	2.60	2.75	3.10	3.45	3.20
Painter (brush).....	2.25	2.15	2.55	3.29	3.20	—
Plasterer.....	2.83	2.60	2.85	3.60	3.75	3.15
Plumber.....	2.86	2.60	2.85	3.35	4.16	4.10
Sheet metal worker.....	2.60	2.00	2.85	—	4.15	3.75
Manufacturing and Other Industries—¹						
General labourer, male.....	1.71	1.62	1.55	1.89	2.03	2.17
Maintenance Trades—						
Carpenter.....	2.40	2.17	2.13	2.56	2.66	2.93
Electrician.....	2.54	2.49	2.34	2.72	2.95	3.17
Machinist.....	2.53	2.35	2.22	2.68	2.83	3.14
Mechanic.....	2.33	2.18	2.19	2.63	2.74	3.06
Millwright.....	2.52	2.51	2.04	2.64	2.83	2.80
Pipefitter.....	2.73	2.45	1.91	2.85	3.17	3.06
Tool and die maker.....	2.61	2.33	2.10	2.76	3.07	3.02
Welder.....	2.55	2.36	2.13	2.49	2.63	2.97
Service Occupations—						
Truck driver, light and heavy.....	1.83	1.74	1.77	2.09	2.31	2.33
Trucker, power.....	1.70	2.05	1.75	2.26	2.37	2.55
	per wk.	per wk.	per wk.	per wk.	per wk.	per wk.
Office Occupations, Male—						
Bookkeeper, senior.....	101	105	100	117	120	124
Clerk, intermediate.....	74	76	73	86	86	93
Clerk, senior.....	106	105	110	110	114	127
Clerk, order.....	73	78	83	92	96	102
Draughtsman, intermediate.....	91	93	96	109	113	107
Draughtsman, senior.....	118	125	131	138	141	130
Office Occupations, Female—						
Clerk, intermediate.....	61	63	58	71	74	70
Machine Operator—						
Bookkeeping.....	58	57	56	66	70	66
Calculating.....	57	47	56	69	71	66
Payroll clerk.....	60	64	58	75	77	70
Secretary, senior.....	78	78	76	93	92	88
Stenographer, junior.....	56	55	56	68	69	66
Stenographer, senior.....	70	66	74	80	79	80
Switchboard operator and receptionist.....	56	52	57	67	69	66
Typist, junior.....	51	47	50	59	61	61
Typist, senior.....	58	57	63	70	73	71

For footnote, see end of table.

**22.—Average Wage and Salary Rates for Selected Occupations in Certain Cities
Across Canada, Oct. 1, 1966—concluded**

Industry and Occupation	Winnipeg, Man.	Regina, Sask.	Saskatoon, Sask.	Calgary, Alta.	Edmonton, Alta.	Vancouver, B.C.
	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.
Construction (building and structures only)—						
Bricklayer and mason.....	3.20	3.10	3.10	3.45	3.40	3.80
Bulldozer operator.....	3.00	2.90	—	3.00	3.30	3.85
Carpenter.....	3.05	2.85	2.80	3.35	3.30	3.69
Cement finisher.....	2.45	2.65	—	2.93	2.85	3.71
Crane operator.....	2.00	—	—	2.40	2.55	2.92
Electrician.....	3.40	3.10	3.20	3.40	3.40	4.34
Labourer.....	2.10	2.02	2.02	2.30	2.30	2.94
Marble and tile setter.....	2.40	—	2.65	3.05	3.35	3.80
Painter (brush).....	2.60	2.55	2.50	2.80	2.60	3.56
Plasterer.....	3.00	2.90	—	3.00	3.30	3.85
Plumber.....	3.37	2.85	3.10	3.45	3.45	3.81
Sheet metal worker.....	2.90	3.05	2.90	3.05	3.40	3.48
Manufacturing and Other Industries—¹						
General labourer, male.....	1.78	1.81	1.95	2.06	1.98	2.39
Maintenance Trades—						
Carpenter.....	2.63	2.41	2.36	2.59	2.65	3.06
Electrician.....	2.76	2.84	2.70	2.81	3.05	3.32
Machinist.....	2.66	2.83	2.96	2.89	2.96	3.15
Mechanic.....	2.63	2.60	2.56	2.68	2.67	3.07
Millwright.....	2.69	2.68	2.41	2.70	2.98	3.24
Pipefitter.....	2.71	3.07	—	2.94	3.01	3.13
Tool and die maker.....	2.41	—	—	—	2.96	3.12
Welder.....	2.60	2.85	2.53	2.81	2.78	3.04
Service Occupations—						
Truck driver, light and heavy.....	1.86	1.94	1.94	2.13	2.04	2.70
Trucker, power.....	2.07	2.12	2.07	2.12	2.17	2.73
	per wk.	per wk.	per wk.	per wk.	per wk.	per wk.
Office Occupations, Male—						
Bookkeeper, senior.....	105	106	117	119	113	123
Clerk, intermediate.....	77	75	81	87	81	88
Clerk, senior.....	105	102	104	116	110	120
Clerk, order.....	82	85	82	88	86	98
Draughtsman, intermediate.....	104	94	90	110	98	114
Draughtsman, senior.....	122	114	117	134	124	141
Office Occupations, Female—						
Clerk, intermediate.....	63	66	67	71	68	75
Machine Operator—						
Bookkeeping.....	62	62	60	61	61	68
Calculating.....	64	67	63	66	64	73
Payroll clerk.....	66	74	71	75	70	76
Secretary, senior.....	83	83	78	88	82	89
Stenographer, junior.....	58	63	60	64	60	66
Stenographer, senior.....	73	72	73	75	71	77
Switchboard operator and receptionist.....	58	60	59	62	60	66
Typist, junior.....	53	55	58	57	55	58
Typist, senior.....	63	69	65	66	65	69

¹ "Other Industries" consists of logging; mining; transportation (all sectors including air transportation), storage and communication (including radio and TV); public utilities; trade; finance; and government and personal service.

Table 23 gives summary data on working conditions of plant and office employees in manufacturing industries and all industries for the years 1964-66. The percentages in this table denote the proportions that employees—plant or office—of establishments reporting specific items bear to the total number of all such employees in all establishments replying to the survey; they are not necessarily the proportions of employees actually covered by the various items. Further details and additional information are given in the annual report *Working Conditions in Canadian Industry*, compiled and published by the Canada Department of Labour and based on a survey at May 1 each year of some 35,000 reporting units.

23.—Summary of Selected Working Conditions of Non-office and Office Employees in Manufacturing and All Industries, 1964-66

Item	1964		1965		1966	
	Manu- facturing Industries	All Industries	Manu- facturing Industries	All Industries	Manu- facturing Industries	All Industries
COVERAGE						
Non-office Employees— Reporting establishments... No. Employees.....	8,718 892,462	19,057 1,622,929	8,993 922,557	20,592 1,976,551	8,332 960,575	19,253 1,989,593
Office Employees— Reporting establishments... No. Employees.....	8,408 275,719	19,260 718,718	8,040 290,343	18,949 952,434	7,985 292,540	19,396 980,710
PERCENTAGES OF NON-OFFICE EMPLOYEES						
Standard Weekly Hours—						
40 and under.....	76	71	77	76	77	79
Over 40 and under 44.....	7	6	7	4	6	4
44.....	3	6	2	4	3	4
45.....	8	6	7	5	9	4
Over 45 and under 48.....	1	1	1	1	1	1
48.....	3	5	3	5	2	4
Over 48.....	2	3	3	3	2	2
Employees on a five-day week.....	92	83	92	86	93	87
Vacations with Pay—						
Two weeks.....	89	87	89	82	88	84
After: 1 year or less.....	25	35	20	33	37	61
2 years.....	11	18	11	17	11	11
3 years.....	28	18	29	16	25	14
4-5 years.....	25	16	19	11	15	8
Other periods.....	—	—	1	—	—	—
Three weeks.....	75	75	77	77	78	80
After: Less than 10 years.....	8	15	15	27	23	33
10 years.....	25	22	25	20	28	23
11-14 years.....	9	7	12	7	11	6
15 years.....	29	28	22	21	15	16
20 years.....	3	2	2	1	1	1
Other periods.....	1	1	1	1	—	1
Four weeks.....	41	47	47	52	52	58
After: Less than 25 years.....	18	19	26	28	38	41
25 years.....	21	26	19	22	14	17
More than 25 years.....	2	2	2	2	—	—
Vacations that do not increase with length of service.....	10	11	9	11	11	10
1 week.....	5	5	5	4	4	3
2 weeks.....	5	6	4	6	7	5
Paid Statutory Holidays.....	96	93	96	94	97	95
1-5.....	5	5	4	4	3	3
6.....	5	5	4	4	3	3
7.....	8	13	9	11	8	6
8.....	56	42	51	35	43	39
9.....	19	20	20	21	23	23
More than 9.....	3	3	3	19	12	21

23.—Summary of Selected Working Conditions of Non-office and Office Employees in Manufacturing and All Industries, 1964-66—concluded

Item	1964		1965		1966	
	Manu- facturing Industries	All Industries	Manu- facturing Industries	All Industries	Manu- facturing Industries	All Industries
PERCENTAGES OF OFFICE EMPLOYEES						
Standard Weekly Hours—						
Under 37½.....	32	34	30	33	32	39
37½.....	41	36	42	37	43	38
Over 37½ and under 40.....	5	5	7	4	5	3
40.....	20	22	19	24	18	23
Over 40.....	2	3	2	2	2	2
Employees on a five-day week.....	97	96	97	97	98	98
Vacations with Pay—						
Two weeks.....	93	92	93	77	94	80
After: 1 year or less.....	87	86	85	72	86	76
2 years.....	4	4	5	3	5	3
3 years.....	1	1	2	1	2	1
5 years.....	1	1	1	1	1	—
Other periods.....	—	—	—	—	—	—
Three weeks.....	86	87	87	90	89	92
After: Less than 10 years.....	10	25	22	46	30	52
10 years.....	39	31	33	22	36	25
11-14 years.....	12	6	13	5	10	4
15 years.....	23	23	17	15	12	10
20 years.....	1	1	1	1	1	1
Other periods.....	1	1	1	1	—	—
Four weeks.....	52	60	60	70	65	75
After: Less than 25 years.....	20	20	34	37	50	51
25 years.....	29	36	23	30	15	23
More than 25 years.....	3	4	3	3	—	1
Vacations that do not increase with length of service.....	6	6	6	5	5	5
1 week.....	1	1	1	—	1	1
2 weeks.....	5	4	5	4	4	3
3 weeks.....	—	1	—	1	—	1
Paid Statutory Holidays.....	100	99	99	99	100	100
1-6.....	3	3	3	2	2	2
7.....	5	10	4	7	4	3
8.....	62	37	56	31	51	32
9.....	24	27	26	20	29	23
More than 9.....	6	22	10	39	14	40

Wages of Farm Labour.—The information on farm wages is provided by volunteer farm correspondents located in all provinces except Newfoundland. The rates presented in Table 24 are average wages paid to all farm help regardless of age and skill. Because the rates reported may cover a wide range of skills, of types of work and of ages of hired workers, the value of the resulting data is considered to be an indicator of trends rather than a measure of absolute wage levels. No attempt has been made to have the wage rates reflect such perquisites as separate housing accommodation, fuel, electricity and food which, under some conditions of hiring, are supplied by employers to their hired farm help.

24.—Average Daily and Monthly Wages of Male Farm Help as at Jan. 15, May 15 and Aug. 15, 1965-67

NOTE.—Figures from 1940 are given in the corresponding table of previous Year Books beginning with the 1943-44 edition.

Province and Year	Jan. 15				May 15				Aug. 15			
	Daily		Monthly		Daily		Monthly		Daily		Monthly	
	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Maritime Provinces—												
1965.....	5.50	6.90	121.00	156.00	5.60	7.10	120.00	152.00	5.90	7.40	118.00	149.00
1966.....	6.00	7.70	129.00	165.00	6.60	7.80	129.00	178.00	6.20	8.00	129.00	167.00
1967.....	6.30	8.40	144.00	196.00	6.80	8.70	148.00	197.00	7.10	8.80	149.00	185.00
Quebec—												
1965.....	6.60	8.50	128.00	174.00	6.70	8.50	131.00	171.00	6.90	8.90	132.00	183.00
1966.....	7.00	8.90	135.00	181.00	7.20	8.80	144.00	186.00	7.50	9.80	138.00	191.00
1967.....	7.40	9.50	145.00	198.00	7.70	9.50	155.00	199.00	7.80	10.30	155.00	213.00
Ontario—												
1965.....	6.90	8.70	137.00	185.00	7.50	9.10	148.00	195.00	8.00	10.00	153.00	216.00
1966.....	7.60	9.70	170.00	218.00	8.10	9.90	182.00	236.00	8.40	10.80	171.00	239.00
1967.....	8.10	10.20	183.00	249.00	8.50	10.80	203.00	252.00	9.10	11.30	185.00	256.00
Manitoba—												
1965.....	6.80	8.50	123.00	170.00	7.20	9.20	155.00	194.00	8.00	10.20	163.00	203.00
1966.....	7.30	9.20	138.00	185.00	8.20	10.20	176.00	218.00	8.40	10.60	182.00	232.00
1967.....	7.90	10.00	165.00	213.00	8.60	10.70	194.00	248.00	9.10	11.70	204.00	244.00
Saskatchewan—												
1965.....	6.80	8.50	127.00	168.00	8.00	10.00	171.00	212.00	9.00	10.70	180.00	218.00
1966.....	7.60	9.70	144.00	188.00	9.00	11.20	200.00	238.00	9.50	11.30	199.00	243.00
1967.....	8.10	10.40	171.00	216.00	9.90	12.00	220.00	261.00	10.30	12.90	222.00	274.00
Alberta—												
1965.....	6.90	8.80	143.00	190.00	7.80	9.90	170.00	216.00	8.10	10.40	175.00	220.00
1966.....	7.80	9.90	160.00	211.00	9.00	11.20	190.00	243.00	9.00	11.30	189.00	241.00
1967.....	8.20	10.40	175.00	230.00	9.20	11.90	210.00	266.00	9.80	12.10	209.00	263.00
British Columbia—												
1965.....	8.00	10.20	160.00	233.00	8.40	10.60	175.00	242.00	8.80	10.80	185.00	256.00
1966.....	8.80	10.80	172.00	249.00	9.80	11.50	195.00	275.00	9.00	11.60	195.00	267.00
1967.....	9.30	11.60	200.00	284.00	9.90	12.10	208.00	293.00	9.60	11.90	205.00	293.00
Totals—												
1965.....	6.40	8.20	135.00	183.00	7.00	8.80	154.00	198.00	7.60	9.60	159.00	208.00
1966.....	7.00	9.00	150.00	199.00	7.80	9.50	176.00	225.00	8.20	10.40	176.00	230.00
1967.....	7.30	9.50	166.00	224.00	8.30	10.50	197.00	251.00	8.60	10.90	194.00	251.00

Section 5.—Unemployment Insurance*

During the depression of the 1930s the need for a nation-wide unemployment insurance program became recognized. In 1935 the Employment and Social Insurance Act was passed by the Federal Parliament but was subsequently declared invalid by the Privy Council. Later, by consent of the provinces, an amendment to the British North America Act was obtained empowering the Federal Parliament to legislate on unemployment insurance and in 1940 the Unemployment Insurance Act was passed, making provision for a compulsory contributory unemployment insurance program at the national level and also for the establishment of a national employment service to operate in conjunction with and ancillary to the unemployment insurance operations. The Act came into effect on July 1, 1941; amended on several occasions, it was replaced by a new Unemployment Insurance Act, effective Oct. 2, 1955.† On Apr. 1, 1965, the operation of the National Employment Service was transferred to the Department of Labour and on Jan. 1, 1966 to the Department of Manpower and Immigration (see pp. 747-749).

Legislation provides for a compulsory insurance program administered by the Federal Government, and requires employers to join with their insurable employees and the Government in building up a fund. This fund is held in trust by the Unemployment Insurance Commission for the payment of benefit to eligible unemployed persons. The Act is administered by a Commission of three persons appointed by the Governor in Council, of whom one is the Chief Commissioner; one Commissioner, other than the Chief Commissioner, is appointed after consultation with employer organizations and the other after consultation with employee organizations.

The Unemployment Insurance Act applies to all persons employed under a contract of service** except: the Canadian Armed Forces; the permanent public service of the Federal Government; provincial government employees except where insured with the concurrence of the government of the province; certified permanent employees of municipal or public authorities; hunting and trapping; private domestic service; private-duty nursing; teaching; workers on other than an hourly, daily or piece rate earning more than \$7,800 a year effective June 30, 1968, unless they elect to continue as insured persons; employees in a charitable institution or in a hospital not carried on for purpose of gain except where the institution or hospital consents to insure certain groups or classes of persons with the concurrence of the Commission. All persons paid by the hour, day, or at a piece rate (including a mileage rate) are insured regardless of amount of earnings.

The amount of the employee contribution is determined by the employee's weekly earnings; an equal contribution is required from the employer. The Federal Government contributes one fifth of the aggregate employer-employee contribution and defrays administrative expenses. Contributions became payable on July 1, 1941. Benefit became payable on Jan. 27, 1942 and by Mar. 31, 1967 a total of \$5,414,000,000 had been paid.

The following statement shows the current weekly rates of contribution and benefit effective June 30, 1968. The weekly contribution is based on actual earnings in the week, irrespective of the number of days worked. The benefit rates are calculated on the average weekly contributions for the last 30 weeks in the 104 weeks preceding claim. In order to qualify for regular benefit, a claimant must have at least 30 weekly contributions in the last 104 weeks prior to claim, eight weekly contributions since the start of the last preceding regular benefit period or in the last year prior to claim, whichever is the shorter period, and 24 weekly contributions since the start of the last preceding benefit period, or in the year prior to the claim, whichever is the longer period.

*Prepared by the Unemployment Insurance and Manpower Section, Labour Division, Dominion Bureau of Statistics; statistics of unemployment insurance are compiled and published by the DBS from material supplied by the Unemployment Insurance Commission.

†Copies of the 1955 Act incorporating subsequent amendments are available from the Queen's Printer, Ottawa (Catalogue No. YX92-222/50).

**Commencing Apr. 1, 1957, coverage was extended to persons engaged in fishing, notwithstanding the fact that such persons are not employees of any other person but are usually self-employed; commencing Apr. 1, 1967, coverage is extended to employees engaged in agriculture and horticulture.

WEEKLY RATES OF CONTRIBUTION AND BENEFIT UNDER THE UNEMPLOYMENT INSURANCE ACT, IN EFFECT FROM JUNE 30, 1968

NOTE.—Weekly rates in effect from Oct. 2, 1955 to June 30, 1968 are given in the 1962 Year Book, p. 738 and the 1967 edition, p. 769.

Range of Weekly Earnings	Weekly Employee Contribution	Range of Average Weekly Contributions	Weekly Rates of Benefit		Earnings not Deducted	
			Person Without Dependant	Person With Dependant	Person Without Dependant	Person With Dependant
	cts.	cts.	\$	\$	\$	\$
Less than \$20.....	10 ¹	Less than 28.....	13	17	7	9
\$20 and under \$30.....	20	28 and under 43..	16	21	8	11
30 " " 40.....	35	43 " " 58..	19	25	10	13
40 " " 50.....	50	58 " " 73..	22	29	11	15
50 " " 60.....	65	73 " " 88..	26	33	13	17
60 " " 70.....	80	88 " " \$1.03..	30	38	15	19
70 " " 80.....	95	\$1.03 " " \$1.18..	34	43	17	22
80 " " 90.....	\$1.10	\$1.18 " " \$1.33..	38	48	19	24
90 " " 100.....	\$1.25	\$1.33 or over.....	42	53	21	27
100 or over.....	\$1.40					

¹ A half stamp.

The Act contains a special provision whereby the regular contribution requirements are relaxed somewhat during a 5½-month period commencing with the first week of December each year. Under this provision, claimants unable to fulfil the contribution requirements for regular benefit may draw "seasonal benefit" if they have at least 15 contribution weeks during the fiscal year or, failing this, if they terminated regular benefit since the previous mid-May.

Statistics on the Operation of the Act.—In order to assess the impact of changing economic conditions on the insurance program, provision is made for collection of current operational data, such as claims filed and processed and payments made. This information is published monthly in the *Statistical Report on the Operation of the Unemployment Insurance Act* (Catalogue No. 73-001). Current claims and payment data are useful for administrative purposes and are also a source of information to the public regarding financial and other aspects of the program.

Persons wishing to draw benefit must file either an initial or a renewal claim. Where it is necessary to compute entitlement to benefit, an initial claim is taken, otherwise a renewal. In the main, initial and renewal claims combined are an approximation of recorded separations from employment during a month. However, if a claimant exhausts his benefit and wishes to be reconsidered for further benefit, an initial claim is required. Such claims, accounting for approximately 15 p.c. of the monthly volume in 1966, are not new cases of disemployment. The count of claimants at the month-end indicates the extent to which claimants maintain contact with local offices of the Commission.

25.—Amount Paid, 1956-66, and Claims Filed, Claimants and Amount Paid, by Month, 1966

Year	Amount Paid	Month	Initial and Renewal Claims Filed	Claimants at Month-End	Amount Paid
	\$'000		'000	'000	\$'000
		1966			
1956.....	210,330	January.....	225	512	35,910
1957.....	305,076	February.....	150	530	44,299
1958.....	492,901	March.....	159	498	46,157
1959.....	406,097	April.....	120	414	37,467
1960.....	481,836	May.....	91	218	29,959
		June.....	68	181	14,712
1961.....	493,971	July.....	87	196	13,661
1962.....	409,208	August.....	84	137	11,821
1963.....	394,163	September.....	73	165	12,265
1964.....	344,390	October.....	86	184	12,336
1965.....	312,110	November.....	153	266	14,287
1966.....	295,301	December.....	252	423	22,427

In addition to the monthly data published on the operation of the Unemployment Insurance Act, annual tabulations are compiled regarding persons employed in insurable employment and benefit periods established and terminated. These data are published in the annual report *Benefit Periods Established and Terminated under the Unemployment Insurance Act* (Catalogue No. 73-201). Data on persons insured under the Act are obtained from a 10-p.c. sample of insurance books and contribution cards renewed at June 1 each year. Included are persons engaged in insurable employment as well as persons on claim at that date.

26.—Persons Insured under the Unemployment Insurance Act, by Industrial Group and Sex, 1965 and 1966

NOTE.—Based on a 10-p.c. sample of contributors and claimants at June 1.

Industry	1965		1966	
	Males	Females	Males	Females
	No.	No.	No.	No.
Agriculture (mainly horticulture).....	9,430	1,770	11,000	2,050
Forestry (mainly logging).....	73,270	2,270	78,920	1,970
Fishing and trapping.....	21,380	150	25,490	260
Mines (including milling), quarries and oil wells.....	101,410	4,110	97,940	4,860
Manufacturing.....	1,145,930	390,370	1,202,710	426,090
Construction.....	325,700	9,680	366,300	11,140
Transportation, communication and other utilities.....	367,070	70,520	397,970	76,580
Trade.....	467,920	300,670	487,780	343,040
Finance, insurance and real estate.....	69,290	124,560	69,750	136,830
Community, business and personal service.....	224,790	265,400	242,010	306,530
Public administration and defence.....	125,480	31,720	124,010	37,150
Industry unspecified or undefined.....	89,330	34,330	27,090	9,910
Totals, All Industries.....	3,021,000	1,235,550	3,130,970	1,356,410

Benefit.—The duration of regular benefit is related to the contribution history—one week's benefit for every two weeks' contributions in the past 104 weeks with a maximum of 52 weeks. However, contributions more than one year old cannot be used if they have already been taken into account in computing previous rights. Disqualifications for benefit include: loss of work owing to a labour dispute in which the contributor is participating or directly interested; unwillingness to accept suitable employment; being an inmate of any prison or any institution supported out of public funds; refusal to attend a

course of instruction or training if directed to do so; residence outside Canada unless otherwise prescribed. Disqualification of a claimant for a period not exceeding six weeks may be imposed if an employee is discharged by reason of his own misconduct or leaves the employment voluntarily without just cause or refuses suitable employment.*

Table 27 distributes regular benefit periods terminated by province and shows average weeks and average dollar benefit paid on these terminations. A claimant establishes a regular benefit period when he submits his claim in the prescribed manner and proves he has fulfilled the minimum contribution requirements. The duration of benefit and the weekly rate authorized, comprising total entitlement, are then calculated and the claimant's benefit may be drawn upon during successive intervals of unemployment. His benefit period terminates either when he has exhausted the amount authorized or when 12 months have elapsed since he established, whichever comes first.

* This list should not be considered exhaustive; more detail may be obtained from the Unemployment Insurance Act and Regulations.

27.—Regular Benefit Periods Terminated, Duration and Average Amount of Benefit Paid, by Province, 1965 and 1966

NOTE.—Based on a 20-p.c. sample.

Province	1965			1966		
	Benefit Periods Terminated	Average Weeks Paid on Termination	Average Amount Paid on Termination	Benefit Periods Terminated	Average Weeks Paid on Termination	Average Amount Paid on Termination
	No.	No.	\$	No.	No.	\$
Newfoundland.....	20,500	15.1	393	21,810	14.1	374
Prince Edward Island.....	4,000	14.5	337	4,165	13.6	325
Nova Scotia.....	32,305	13.2	321	35,725	11.8	289
New Brunswick.....	30,320	14.0	345	31,480	13.1	328
Quebec.....	221,730	12.8	333	243,550	11.6	304
Ontario.....	229,940	12.1	305	243,640	10.6	272
Manitoba.....	25,105	14.2	358	28,535	11.9	304
Saskatchewan.....	16,960	14.4	369	19,605	12.4	314
Alberta.....	33,775	12.5	324	37,910	10.2	266
British Columbia.....	80,100	11.7	310	82,530	10.6	281
Totals.....	694,735	12.7	324	748,950	11.3	292

Table 28 gives regular benefit periods terminated and average weeks paid, classified by age group of claimant.

28.—Regular Benefit Periods Terminated and Duration of Benefit Paid, classified by Age Group of Claimant, 1965 and 1966

NOTE.—Based on a 20-p.c. sample.

Age Group	1965		1966	
	Benefit Periods Terminated	Average Weeks Paid on Termination	Benefit Periods Terminated	Average Weeks Paid on Termination
	No.	No.	No.	No.
Under 20 years.....	23,745	10.6	34,825	9.4
20 — 24 ".....	127,575	11.1	139,160	9.6
25 — 34 ".....	174,330	11.4	178,050	9.7
35 — 44 ".....	144,950	11.4	148,555	10.1
45 — 54 ".....	109,015	12.6	116,475	11.3
55 — 64 ".....	77,330	15.0	79,625	13.7
65 years or over.....	37,790	25.7	38,325	25.2
Unspecified.....	—	—	13,935	12.1
Totals.....	694,735	12.7	748,950	11.3

Table 29 gives provincial distributions of seasonal benefit periods in 1965 and 1966, average weeks and average benefit paid.

29.—Seasonal Benefit Periods, Duration of Benefit and Amount Paid, by Province, 1965 and 1966

NOTE.—Based on a 10-p.c. sample.

Province	1965			1966		
	Benefit Periods	Average Weeks Paid	Average Amount Paid	Benefit Periods	Average Weeks Paid	Average Amount Paid
	No.	No.	\$	No.	No.	\$
Newfoundland.....	26,210	12.8	306	25,425	12.6	309
Prince Edward Island.....	5,065	12.8	304	4,615	12.6	307
Nova Scotia.....	21,025	10.9	258	18,875	10.9	268
New Brunswick.....	24,325	11.0	259	22,335	11.1	267
Quebec.....	84,190	9.1	223	74,670	9.0	226
Ontario.....	67,000	8.9	208	57,230	8.8	211
Manitoba.....	11,590	9.1	222	9,815	9.1	233
Saskatchewan.....	9,430	9.0	216	7,885	8.9	218
Alberta.....	12,425	8.3	205	9,260	8.0	201
British Columbia.....	28,560	9.3	245	25,355	9.1	242
Totals.....	289,820	9.7	235	255,465	9.7	240

Section 6.—Employment Injuries and Workmen's Compensation

Fatal Employment Injuries.—Data on fatal employment injuries, compiled by the Canada Department of Labour, are obtained from provincial Workmen's Compensation Boards, from the Canadian Transport Commission and other government authorities, and from press reports. Of the 1,237 fatal injuries to industrial workers that occurred during 1966, 285 were the result of falls and slips—91 into storage bunkers, 34 from bridges, trestles and catwalks, 22 from platforms, ramps and stationary vehicles, and the remainder caused by other types of falls. There were 284 deaths caused by victims being struck by different objects, and collisions, derailments and wrecks were responsible for 221 deaths. The classification of "caught in, on or between objects, vehicles, etc." accounted for 140 deaths, and conflagrations, temperature extremes and explosions accounted for 62. There were 58 deaths caused by inhalation, contact, absorptions, ingestions and industrial diseases, 51 by contact with electric current, 34 by over-exertion and six by striking against and stepping on objects. The remainder were the result of miscellaneous accidents.

30.—Fatal Employment Injuries, by Industry, 1963-66

Industry	Numbers				Percentages of Total			
	1963	1964	1965	1966 ^p	1963	1964	1965	1966 ^p
Agriculture.....	49	72	50	55	4.0	5.4	3.8	4.4
Forestry.....	122	155	108	110	9.9	11.7	8.1	8.9
Fishing and trapping.....	34	37	40	37	2.8	2.8	3.0	3.0
Mining, quarrying and oil wells....	165	161	176	143	13.2	12.2	13.3	11.6
Manufacturing.....	222	235	225	219	18.0	17.8	16.9	17.7
Construction.....	234	252	277	294	19.0	19.1	21.0	23.8
Transportation, communication and other utilities.....	210	237	288	249	17.0	18.0	21.7	20.1
Trade.....	61	62	69	58	4.9	4.7	5.2	4.7
Finance, insurance and real estate..	1	2	3	1	0.1	0.2	0.2	0.1
Service.....	28	55	38	42	2.3	4.2	2.9	3.4
Public administration.....	109	52	52	29	8.8	3.9	3.9	2.3
Totals.....	1,233	1,320	1,326	1,237	100.0	100.0	100.0	100.0

Workmen's Compensation.—In all provinces legislation is in force providing for payment of compensation to workmen who are injured by accident arising out of and in the course of their employment or who are disabled as a result of a specified industrial disease. To be entitled to benefits, a workman must be employed in an industry covered by the Act at the time of the injury. Compensation is not payable, however, where the disability lasts less than a stated number of days (varying from one to four in the provincial Acts), or if the injury is due to the workman's own misconduct. A workman who is entitled to compensation has no right of action against his employer for injury sustained during employment.

The Acts provide for a compulsory system of collective liability on the part of employers. Industries covered are divided into classes or groups, according to hazard. Employers are required to contribute to the Accident Fund at a rate fixed in accordance with the accident experience of the class or group. Each class is liable for the costs of all accidents occurring in that class.

The laws apply to enumerated employments but the range of industries covered by each Act is very wide. The principal exceptions are farm workers (who are not covered except in Ontario), domestic servants, casual workers, employees of financial, insurance and professional undertakings, employees of non-profit religious or charitable organizations, and workers in certain service industries in most provinces, for example, barber shops and beauty parlours. Small undertakings, i.e., those with fewer than a specified number of employees, are exempted from the Act in some provinces. Excluded employments may generally be brought under the Act on the voluntary application of the employer.

Benefits for disability are based on 75 p.c. of earnings, subject to an annual ceiling. Where disability is permanent, a life pension is paid, irrespective of future earnings. Medical benefits are provided without limitation, regardless of a waiting period, and rehabilitation services are available where necessary. Where death results from an employment injury, fixed monthly payments are made to dependants.

A federal Act provides for compensation for accidents to Federal Government employees according to the scale of benefits provided by the Act of the province in which the employee is usually employed. Seamen who are not under a provincial Workmen's Compensation Act are entitled to compensation under the federal Merchant Seamen Compensation Act.

31.—Employment Injuries Reported and Compensation Paid by Workmen's Compensation Boards, 1965 and 1966

Year and Province	Employment Injuries Reported					Compensation Paid ²
	Medical Aid Only ¹	Temporary Disability	Permanent Disability	Fatal	Total	
	No.	No.	No.	No.	No.	\$
1965						
Newfoundland.....	5,776	4,299	115	35	10,225	2,337,322
Prince Edward Island.....	1,249	1,122	20	2	2,393	305,209
Nova Scotia.....	14,447	9,230	280	31	23,988	5,742,058
New Brunswick.....	14,012	9,456	129	36	23,633	3,955,881
Quebec.....	96,712	..	..	247	160,788	39,744,072 ³
Ontario.....	230,663	97,238	3,232	272	331,405	75,893,370 ³
Manitoba.....	14,738	11,627	358	45	26,768	5,400,358
Saskatchewan.....	14,138	10,449	204	125	24,916	5,698,968
Alberta.....	31,247	22,443	968	119	54,777	13,150,643
British Columbia.....	54,227	25,916	1,240	206	81,589	26,503,112
Totals, 1965.....	477,209	..	..	1,118	740,482	178,731,002

For footnotes, see end of table.

31.—Employment Injuries Reported and Compensation Paid by Workmen's Compensation Boards, 1965 and 1966—concluded

Year and Province	Employment Injuries Reported					Compensation Paid ²
	Medical Aid Only ¹	Temporary Disability	Permanent Disability	Fatal	Total	
1966 ²	No.	No.	No.	No.	No.	\$
Newfoundland.....	5,597	4,466	57	26	10,146	2,357,112
Prince Edward Island.....	1,186	1,074	7	2	2,269	303,803
Nova Scotia.....	14,804	9,830	86	33	24,753	6,651,096
New Brunswick.....	14,698	9,369	310	57	24,434	5,031,772
Quebec.....	116,443	..	..	310	171,011	49,807,382 ³
Ontario.....	..	..	..	270	373,554	87,104,706 ³
Manitoba.....	15,208	13,217	490	39	28,954	6,132,609
Saskatchewan.....	14,535	10,552	213	132	25,432	6,543,657
Alberta.....	31,770	23,508	913	115	56,306	14,043,411
British Columbia.....	52,542	26,749	1,325	178	80,794	29,453,302
Totals, 1966.....	..	..	..	1,162	797,653	207,428,850

¹ Injuries requiring medical treatment but not causing disability for a sufficient period to qualify for compensation; the period varies in the several provinces. ² Includes, except where noted otherwise, payments to compensate loss of earnings, medical aid payments, cost of rehabilitation and hospitalization (not including capital expenditures) and pensions paid (not pensions awarded) for temporary and permanent disabilities. ³ Excludes payments by employers who make direct compensation to their employees; such employees come under Schedule I of the Ontario and Quebec Workmen's Compensation Acts.

Section 7.—Organized Labour in Canada

A special article on the "History of the Labour Movement in Canada", prepared by Dr. Eugene Forsey, Director of Research of the Canadian Labour Congress, appears in the 1967 Canada Year Book at pp. 773-781.

Subsection 1.—Union Membership

Union membership in Canada as of Jan. 1, 1967, stood at 1,921,000, continuing the upward trend that has been in evidence since 1962. This figure represented 32.3 p.c. of the non-agricultural paid workers in Canada and 26.1 p.c. of the over-all labour force. The increase in membership between 1966 and 1967 was 185,000 or 10.6 p.c., the major portion of which was attributable to organizing activity of the unions in the favourable environment of an expanding labour force. The 1967 total was also influenced by the addition of 93,000 members of the Public Service Alliance of Canada, which became affiliated with the Canadian Labour Congress on Jan. 1. In the five-year period ended January 1967, union membership in Canada increased by 500,000.

32.—Union Membership in Canada, 1939-67

Year	Members	Year	Members	Year	Members	Year	Members
	'000		'000		'000		'000
1939.....	359	1946.....	832	1954.....	1,268	1961.....	1,447
1940.....	362	1947.....	912	1955.....	1,268	1962.....	1,423
1941.....	462	1948.....	978	1956.....	1,352	1963.....	1,449
1942.....	578	1949 ^{1,2}	1,006	1957.....	1,336	1964.....	1,493
1943.....	665	1951 ¹	1,029	1958.....	1,454	1965.....	1,589
1944.....	724	1952.....	1,146	1959.....	1,459	1966.....	1,736
1945.....	711	1953.....	1,220	1960.....	1,459	1967.....	1,921

¹ Figures for years up to and including 1949 are as at Dec. 31; figures from 1951 are as at Jan. 1. Newfoundland included from 1949.

² New-

Membership in unions affiliated with the Canadian Labour Congress (CLC) at the beginning of 1967 totalled 1,451,000, a rise of 13.1 p.c. over the previous year. Affiliates of this central body, including the newly formed Public Service Alliance, comprised slightly more than three quarters of total union membership. Major gains were reported by a large number of CLC affiliates over the year. Among these were: the Canadian Union of Public Employees, with an increase of 16,300 members; the United Steelworkers of America (10,000); the International Brotherhood of Electrical Workers (6,400); the Plumbers (6,000); the Carpenters (5,600); and the International Operating Engineers (4,200). There were other smaller but nevertheless substantial gains.

The Confederation of National Trade Unions (CNTU) reported a total of 198,000 members in 1967, representing an increase of 5 p.c. over the previous year. The largest gains were registered by the *Fédération nationale des services* (Service Employees' Federation) with an increase of 6,200 members and the *Fédération nationale de la métallurgie* (Metal Trades Federation) with 3,600 more members than in 1966.

Of the 1,921,000 union members reported in the 1967 survey, two thirds were in international unions. Of the 110 international unions, 90 were affiliated with both the CLC and the AFL-CIO, seven belonged only to the AFL-CIO, three belonged only to the CLC, and the remaining 10 unions were not affiliated with any central labour body. There were 55 national unions active in Canada, with 576,000 members; 20 of these unions, affiliated with the CLC, accounted for 15 p.c. of total membership. The 13 federations of the CNTU accounted for another 10 p.c. There were, in addition, 22 unaffiliated unions with a total membership of 87,000.

Direct charters from the CLC were held by 155 local unions with a total membership of 17,600 and direct charters from the CNTU were held by 52 local unions with 7,200 members. Membership of the 207 local unions chartered by central labour bodies comprised 1.3 p.c. of all trade union members in Canada. Independent local organizations reported 47,000 members, or 2.5 p.c. of the total.

33.—Union Membership, by Type of Union and Affiliation, as at January 1967

Type and Affiliation	Unions	Locals	Membership
	No.	No.	No.
International Unions.....	110	4,908	1,272,884
AFL-CIO/CLC.....	90	4,447	1,120,401
CLC only.....	3	42	14,579
AFL-CIO only.....	7	13	15,005
Unaffiliated railway brotherhoods.....	2	109	8,264
Other unaffiliated unions.....	8	297	114,635
National Unions.....	55	3,438	575,663
CLC.....	20	2,229	298,032
CNTU.....	13	807	190,539
Unaffiliated unions.....	22	402	87,092
Directly Chartered Local Unions.....	207	207	24,855
CLC.....	155	155	17,607
CNTU.....	52	52	7,248
Independent Local Organizations.....	126	126	47,245
Grand Totals.....	498	8,679	1,920,647

Twelve unions reported membership of 30,000 or more in the 1967 survey; these unions, which accounted for more than two fifths of all union members in Canada, are listed below, with their affiliations, in order of their relative size; the relative position of each in 1966 is also shown.

<i>Relative Position in 1967</i>	<i>Union and Affiliation</i>	<i>Membership in 1967</i>	<i>Relative Position in 1966</i>
1	United Steelworkers of America (AFL-CIO/CLC).....	130,000	1
2	Canadian Union of Public Employees (CLC).....	106,100	3
3	Public Service Alliance of Canada (CLC).....	92,800	1
4	International Union, United Automobile, Aerospace and Agri- cultural Implement Workers of America (AFL-CIO/CLC).....	90,800	2
5	United Brotherhood of Carpenters and Joiners of America (AFL- CIO/CLC).....	77,300	4
6	International Brotherhood of Teamsters, Chauffeurs, Warehouse- men and Helpers of America (Ind.).....	54,700	5
7	International Woodworkers of America (AFL-CIO/CLC).....	48,600	6
8	International Brotherhood of Electrical Workers (AFL-CIO/CLC)	48,500	8
9	International Association of Machinists and Aerospace Workers (AFL-CIO/CLC).....	42,700	7
10	International Brotherhood of Pulp, Sulphite and Paper Mill Workers (AFL-CIO/CLC).....	40,000	9
11	Fédération nationale des services (CSN) Service Employees' Federation (CNTU).....	36,300	11
12	Canadian Brotherhood of Railway, Transport and General Workers (CLC).....	34,900	10

¹ Formed in November 1966.

A complete list of the individual international and national unions, with number of locals and membership in Canada, is carried in the annual Department of Labour publication, *Labour Organizations in Canada* available from the Queen's Printer, Ottawa, price 50 cents.

Subsection 2.—Strikes and Lockouts

Statistical information on strikes and lockouts in Canada is compiled by the Economics and Research Branch of the Canada Department of Labour on the basis of reports from Canada Manpower Centres of the Department of Manpower and Immigration. Table 34 covers strikes and lockouts lasting ten man-days or more. The developments leading to work stoppages are often too complex to make it practicable to distinguish statistically between strikes on the one hand and lockouts on the other. However, a work stoppage that is clearly a lockout is not often encountered.

The number of workers involved includes all workers reported on strike or locked out, whether or not they all belonged to the unions directly involved in the disputes leading to work stoppages. Workers indirectly affected, such as those laid off as a result of a work stoppage, are not included. Duration of strikes and lockouts in terms of man-days is calculated by multiplying the number of workers involved in each work stoppage by the number of working days the stoppage was in progress. The duration in man-days of all work stoppages in a year is also shown as a percentage of estimated working time, based on the annual average of all non-agricultural paid workers in Canada. The data on duration of work stoppages in man-days are provided to facilitate comparison of work stoppages in terms of a common denominator. They are not intended as a measure of the loss of productive time to the economy.

34.—Strikes and Lockouts, by Industry, 1966 with Totals for 1962-66

NOTE.—Comparable statistics, except for 1961, are given in the corresponding table of previous Year Books; the latter are available in the Canada Department of Labour annual publication *Strikes and Lockouts in Canada*.

Industry	Strikes and Lockouts Beginning during Year	Strikes and Lockouts in Existence during Year			
		Strikes and Lockouts	Workers Involved	Duration in Man-Days	
	No.	No.	No.	No.	
Agriculture	—	—	—	—	
Forestry	7	7	14,365	64,630	
Fishing and Trapping	—	—	—	—	
Mines	34	36	43,990	450,430	
Metal.....	18	19	39,120	409,370	
Mineral fuels.....	10	10	3,895	12,450	
Non-metal.....	4	5	840	24,550	
Quarries.....	1	1	17	680	
Incidental services.....	1	1	118	3,380	
Manufacturing	277	301	96,224	1,987,830	
Food and beverages.....	34	36	9,082	315,320	
Tobacco products.....	1	1	200	200	
Rubber.....	7	7	3,747	58,540	
Leather.....	3	4	479	13,410	
Textiles.....	15	16	9,145	651,330	
Knitting mills.....	1	1	27	300	
Clothing.....	1	1	84	250	
Wood.....	18	19	2,280	56,850	
Furniture and fixtures.....	4	4	546	8,900	
Paper.....	18	19	4,722	55,070	
Printing and publishing.....	2	7	554	108,910	
Primary metals.....	28	30	11,461	224,240	
Metal fabricating.....	30	33	16,536	105,190	
Machinery.....	17	17	3,273	28,790	
Transportation equipment.....	32	32	23,006	168,330	
Electrical products.....	23	25	6,004	79,920	
Non-metallic mineral products.....	20	21	1,884	44,040	
Petroleum and coal products.....	—	3	679	11,660	
Chemical products.....	10	10	1,199	24,160	
Miscellaneous manufacturing.....	13	15	1,316	32,420	
Construction	146	149	45,375	297,090	
Transportation and Utilities	53	55	161,880	1,673,110	
Transportation.....	42	43	153,431	1,573,310	
Communication.....	4	4	838	11,640	
Power, gas and water.....	7	8	7,611	88,160	
Trade	24	27	1,446	16,980	
Finance	1	1	12	20	
Insurance and real estate.....	1	1	12	20	
Service	24	25	37,898	518,780	
Education.....	12	12	4,604	85,480	
Health and welfare.....	4	4	32,960	430,540	
Personal services.....	6	7	239	1,810	
Miscellaneous services.....	2	2	95	950	
Public Administration	16	16	10,269	169,300	
Federal administration.....	1	1	85	1,430	
Provincial administration.....	1	1	1,600	91,200	
Local administration.....	14	14	8,584	76,670	
Totals	1966	582	617	411,459	5,178,170
	1965	478	501	171,870	2,349,870
	1964	327	343	100,535	1,580,550
	1963	318	332	83,428	917,140
	1962	290	311	74,332	1,417,900

CHAPTER XIX.—TRANSPORTATION

CONSPECTUS

	PAGE		PAGE
Part I.—Government Promotion and Regulation of Transportation.....	791	Subsection 1. Shipping.....	820
Part II.—Rail Transport.....	794	Subsection 2. Harbours.....	826
SECTION 1. RAILWAY OPERATING STATISTICS.....	795	Subsection 3. Canals.....	827
SECTION 2. THE CANADIAN NATIONAL RAILWAY SYSTEM.....	802	Subsection 4. The St. Lawrence Seaway.....	831
Part III.—Road Transport.....	805	Subsection 5. Marine Services of the Federal Government.....	835
SECTION 1. PROVINCIAL MOTOR VEHICLE AND TRAFFIC REGULATIONS.....	805	SECTION 2. FINANCIAL STATISTICS OF WATERWAYS.....	838
SECTION 2. HIGHWAYS, ROADS AND STREETS.....	809	Part V.—Civil Air Transport.....	842
SECTION 3. MOTOR VEHICLES.....	812	SECTION 1. CIVIL AVIATION ADMINISTRATION AND POLICY.....	842
Part IV.—Water Transport.....	820	SECTION 2. CURRENT AIR SERVICES.....	844
SECTION 1. SHIPPING FACILITIES AND TRAFFIC.....	820	SECTION 3. CIVIL AVIATION OPERATION STATISTICS.....	852
		Part VI.—Oil and Gas Pipelines.....	855

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

The physiographic and population characteristics of Canada present unusual difficulties from the standpoint of transportation. The country extends 4,000 miles from east to west and its main topographic barriers run in a north-south direction, so that sections of the country are cut off from one another by such water barriers as Cabot Strait and the Strait of Belle Isle separating the Island of Newfoundland from the mainland; by rough, rocky forest terrain such as the New Brunswick-Quebec border region and the areas north of Lakes Huron and Superior dividing the industrial region of Ontario and Quebec from the agricultural areas of the Prairie Provinces; and by the mountain barriers between the prairies and the Pacific Coast. To such a country, with a population so dispersed and producing for export as well as for consumption in distant parts of the country itself, efficient and economical transportation facilities are necessities of existence. The extent of its importance can be realized when it is estimated that gross domestic product originating with this industry is roughly 7 p.c. of the total product originating in the economy. Because Canada now has a tremendous capital investment in transport and because this large investment serves a relatively small market for transport services when compared with more heavily populated countries and countries of lesser extent, the provision of integrated and efficient services is a continuing problem to be faced through the application of every innovation and through constant study and research.

PART I.—GOVERNMENT PROMOTION AND REGULATION OF TRANSPORTATION

The Federal Government plays a twofold role in the development of transportation services. One is a promotional role, ensuring the growth and development of the kind of transportation appropriate to the times. The other is a regulatory role, including economic

regulation of rates and services and also technical regulation to meet safety requirements and for other purposes. Examples of promotion are the building of canals from the time of Confederation to the present-day Seaway, the underwriting of railway development and branch-line extension, the establishment of Air Canada, the large investments made in airports and aeronautical installations, and the building of the Trans-Canada Highway.

The Department of Transport and the various Crown agencies reporting to Parliament through the Minister of Transport have jurisdiction over canals, harbours, shipping, civil aviation and interprovincial and international railways. Interprovincial or international pipelines for carrying gas, crude oil or petroleum products are under the jurisdiction of the National Energy Board. Jurisdiction over for-hire interprovincial or international highway transport also rests with the Federal Government but these powers are at present exercised by the provincial highway transport boards under the federal Motor Vehicle Transport Act of 1954.

Railway regulation was developed in a period when railways enjoyed a virtual monopoly of transport in the country. Measures to protect the public against excessive charges, unjust discrimination and other objectionable monopoly practices, together with measures to ensure safe operations, have over the years subjected railways to the most comprehensive regulation of any Canadian industry. In the intervening years the rapid growth of road, air and pipeline services has ended the railway monopoly for a large part of the total traffic available and has placed the railways in a highly competitive situation.

A Royal Commission was appointed in 1959 to inquire into the railway rate structure and other problems. Its findings indicated a need to shift from regulating monopoly to maintaining a balance between the several competing modes of transport. Legislation based on the findings of the Royal Commission was passed by Parliament and received Royal Assent on Feb. 9, 1967. The statute, called the National Transportation Act, defines a national transportation policy for Canada looking to the achievement of an economic and efficient transportation system making the best use of all available modes of transportation at the lowest total cost. It establishes a new body, the Canadian Transport Commission, to carry out the functions formerly performed by the Board of Transport Commissioners for Canada, the Air Transport Board and the Canadian Maritime Commission. In addition, the Act creates a framework within which the pipeline carriage of commodities other than oil and gas and the interprovincial and international motor transport undertakings could be regulated by the Canadian Transport Commission.

The general purpose of the Act is to create a situation in which the development of the transportation industry and the protection of the public against excessive or discriminatory charges are accomplished in the main by competition between modes rather than by regulation and control. The railways are relieved of some of the more onerous and outdated restrictions on their freedom to meet competition. On the other hand, a shipper who has no practical alternative to rail shipment can apply to have a maximum rate fixed for his goods by the new Commission. The Act also provides a procedure to allow the railways, under safeguards for the public interest, to abandon lines and withdraw passenger services where they are no longer needed.

The Canadian Transport Commission.—The Commission, created by the National Transportation Act (SC 1967, c. 69), was organized on Sept. 19, 1967 and succeeded to all the powers and duties of its predecessors, the Board of Transport Commissioners for Canada, the Air Transport Board and the Canadian Maritime Commission. The Commission is a court of record. It consists of a maximum of 17 members, of whom one is president and two are vice-presidents. One of the vice-presidents is charged with the superintendence of the work of the committees of the Commission and the other is charged with the superintendence of the programs of study and research of the Commission. For the purpose of performing its duties the Commission must establish committees, any of which may, in accordance with the rules and regulations of the Commission, exercise the powers of the Commission. Three of these committees—the Railway Transport Committee, the Air Transport Committee and the Water Transport Committee—are a

present functioning in respect of these several modes of transport. The finding or determination of the Commission upon any question of fact within its jurisdiction is binding and conclusive and no order or decision may be questioned or reviewed except on appeal to the Supreme Court of Canada upon a question of law or a question of jurisdiction with leave of a judge of that Court, or by the Governor in Council. However, a party to an application for a licence under the Aeronautics Act or the Transport Act may appeal to the Minister of Transport from a final decision of the Commission.

The Commission has jurisdiction under more than a score of Acts of Parliament, including the Railway Act, the Aeronautics Act and the Transport Act, over transportation by railway, by air and by inland water, and over communication by telephone and telegraph.

Railway Transport.—Under the Railway Act the jurisdiction of the Commission is, stated generally, in respect of construction, maintenance and operation of railways that are subject to the legislative authority of the Parliament of Canada, including matters of engineering, location of lines, crossings and crossing protection, safety of train operation, operating rules, investigation of accidents, accommodation for traffic and facilities for service, abandonment of operation and uniformity of railway accounting. The Commission also has certain jurisdiction over telephones and telegraphs, including regulation of the telephone tolls of The Bell Telephone Company of Canada and over tolls for the use of international bridges and tunnels.

Except for certain statutory rates, and subject to certain powers of the Commission to deal with rates that it finds to be contrary to public interest, the railways are free to charge rates as they wish. However, rates must be compensatory, and the Commission may prescribe tolls for captive shippers if such tolls take undue advantage of a monopoly situation favouring the railways (see also p. 792).

Air Transport.—The Commission is responsible for the economic regulation of commercial air services in Canada and is also required to advise the Minister of Transport in the exercise of his duties and powers in all matters relating to civil aviation. The regulatory function relates to Canadian air services within Canada and abroad and to foreign air services operating into and out of Canada. It involves the licensing of all such services and the subsequent regulation of the licensees in respect of their economic operation and the provision of service to the public. The Commission issues regulations, approved by the Governor in Council, dealing with the classification of air carriers and commercial air services, accounts, records and reports, traffic tolls and tariffs, and various other matters. All regulations, rules and orders issued by the former Air Transport Board continue in force until repealed or amended by the Canadian Transport Commission.

On Oct. 20, 1966, the Minister of Transport tabled in the House of Commons a "Statement of Principles for Regional Air Carriers", which assigns to the Commission the responsibility for initiating measures to implement the policy set out therein. In this connection, the Commission has under review the route structures of regional air carriers.

The Commission takes an active part in the work of the International Civil Aviation Organization and, when appropriate, undertakes bilateral negotiations for the exchange of traffic rights. At present, Air Canada and Canadian Pacific Airlines Limited are Canada's designated international scheduled carriers.

Water Transport.—Under the Transport Act, the Commission entertains applications or licences for ships to transport goods or passengers for hire or reward between places in Canada on the Great Lakes and on the Mackenzie and Yukon Rivers, except goods in bulk on waters other than the Mackenzie River. Before granting a licence, the Commission must be satisfied that public convenience and necessity require such transport. The Commission also has regulative powers over tolls for such transport.

In addition, the Commission administers subsidies paid by the Federal Government for the maintenance of certain coastal and inland water shipping services; the services and the amounts paid for the years ended Mar. 31, 1966 and 1967 are given on p. 842.

The National Energy Board.—The National Energy Act (SC 1959, c. 46) proclaimed Nov. 1, 1959, provided for the establishment of a five-member Board charged with the duty of assuring the best use of energy resources in Canada. In the performance of this function, the Board is responsible for the regulation of the construction and operation of the oil and gas pipelines that are under the jurisdiction of the Parliament of Canada, the tolls charged for transmission by oil and gas pipeline, the export and import of gas and the export of electric power, and the construction of the lines over which such power is transmitted. The functions and operations of the Board are covered in the Domestic Trade and Prices Chapter of this volume, Part II, Section 4.

PART II.—RAIL TRANSPORT*

Since Confederation the railways of Canada have been the principal transport facility throughout, and beyond, the nation. The two great transcontinental systems, supplemented by a major north-south line on the West Coast and a few regional independent railways, are the only carriers able to transport large volumes of freight at low cost in all weather by continuous passage over Canadian transcontinental routes.

The two nation-wide railway companies control a wide variety of Canadian and international transport and communications services. The government-owned Canadian National Railway System is the country's largest public utility and operates the greatest length of trackage in Canada. It is the only railway serving all ten provinces and has completed a branch line to serve the Great Slave Lake area of the Northwest Territories. In addition, it operates a highway service, a fleet of coastal steamships, an extensive express service, a chain of large hotels and resorts, and a scheduled air service connecting all major cities across the country and Canadian with other North American and European and Caribbean points. The Canadian National, jointly with the Canadian Pacific Railway Company, operates a national telecommunications system that employs modern microwave, high-speed teletype and private wire networks, telex, data and weather facsimile transmission and movement of telegrams to any point in the world. The Canadian Pacific Railway Company is a joint-stock corporation also operating a transcontinental railway, an express service, a domestic truck and bus network, a fleet of inland, coastal and ocean-going vessels, a chain of year-round and resort hotels, a domestic airline service to points in British Columbia, Alberta and Yukon Territory, a transpacific airline service to the Orient and the Antipodes, air services to Mexico, Peru, Chile and Argentina, a transpolar air route connecting Vancouver and Amsterdam, a transatlantic service to Holland, the Azores, Portugal, Spain and Italy, a transcontinental service between Vancouver—San Francisco and Montreal and a non-stop service between Toronto and Honolulu.

The Pacific Great Eastern Railway, owned by the British Columbia Government, operates over an 800-mile route from North Vancouver to Fort St. John in the Peace River area of northeastern British Columbia, with several northern branch lines recently completed or under construction. Interline barge and rail connections at Vancouver provide a complete service to any railway point on the Continent. The completion in 1958 of the northern section of this line opened up to development the vast interior of the province, providing access to its rich natural resources and stimulating large-scale investment in new industrial plants throughout the area it serves. The PGE is fully dieselized and controlled by an intricate microwave system from its Vancouver offices.

Government Aid to Railways.—In order that the private railways of Canada might be constructed in advance of settlement as colonization roads or through sparsely settled districts where little traffic was available, it was necessary for federal and provincial governments and even for municipalities to extend some form of assistance. The form of aid was usually a bonus of a fixed amount for each mile of railway constructed and, in the

* The statistical data in this Part were revised in the Transportation and Public Utilities Division, Dominion Bureau of Statistics; more detailed information is given in the annual reports of the Division. A special article on operational and technological changes in rail transport appears in the 1965 Year Book at pp. 755-761.

early days, grants of land were also made other than for right-of-way. As the country developed, objections to the land-grant method became increasingly apparent and aid was given more frequently in the form of a cash subsidy for each mile of line, a loan or a subscription to the shares of the railway. Guarantees of debenture issues came later and, since the formation of the Canadian National Railways, all debenture issues of that System, except those for rolling-stock, have been guaranteed by the Federal Government. During the era of railway expansion before 1918, provincial governments guaranteed the bonds of some railway lines that afterwards were incorporated in the Canadian National Railway System. These bonds as they mature or are called are paid off by the Canadian National Railways, in large measure through funds raised by the issue of new bonds with Federal Government guarantee. Railway bonds guaranteed by the Government of Canada at Dec. 31, 1966 amounted to \$1,325,461,500.

As discussed on pp. 792-793, the National Transportation Act (SC 1967, c. 69), administered by the Canadian Transport Commission, expresses a national transportation policy for Canada aimed at the development of "an economic, efficient and adequate transportation system making the best use of all available modes of transportation at the lowest total cost". The new law is expected to provide the railways with greater freedom to meet the competition with which they are faced and to develop as an integral part of today's complex transportation system.

Under the Act, the 1966 level of Federal Government rail subsidy of \$110,000,000 a year will decline by \$14,000,000 a year until it disappears at the end of 1974. The Crows Nest Pass rail rates on grain and flour from Western Canada and the rates under the Maritime Freight Rates Act remain in force. The so-called "bridge subsidy" paid under the Railway Act to the major railways for operation of lines through the light-traffic territory in the Lake Superior District ceased at the end of 1966 but the reduction in freight rates made possible by the bridge subsidy remains in force. After a period of one year of the coming into force of Part V of the National Transportation Act and upon authorization of the Canadian Transport Commission, the railways will be permitted to make successive annual increases for a period of three years to the freight rates over the territory formerly covered by the bridge subsidy, to yield additional operating revenues after one year of \$3,000,000, after two years of \$2,000,000 and after three years of \$2,000,000.

Section 1.—Railway Operating Statistics

Track Mileage.*—Construction was begun in 1835 on the first railway in Canada—the short link of 14.5 miles between Laprairie and St. Johns, Que.—but only 66 miles were in operation by 1850. The first great period of construction was in the 1850s when the Grand Trunk and the Great Western Railways were built as well as numerous smaller lines. The building of the Intercolonial and the Canadian Pacific Railways contributed to another period of rapid expansion in the 1870s and 1880s. In the last period of extensive railway building (1900-17), the Grand Trunk Pacific, National Transcontinental and Canadian Northern Railways were constructed.

There has been little change in total track mileage since the 1920s. The mileage peak was reached in 1959 and there has since been a gradual decline, new construction being more than offset by abandonment of unprofitable lines. In recent years, the development of a number of large projects in districts far removed from transport facilities and the opening up of the Northwest Territories have necessitated the building of branch lines. Those completed up to 1956 are listed in the 1957-58 Year Book, p. 815, and those completed from that year to 1966 are mentioned in subsequent editions. During 1967, 130 miles of the 235-mile track to give access to Alberta's northern resources were completed and grading was in process on the remainder of the line which will be operated by CN under a lease arrangement with the Government of Alberta. In northwestern Ontario, a 67-mile

* Statistics for individual railways are given in DBS annual report *Railway Transport, Part III* (Catalogue No. 52-209).

branch line stretching from Amesdale to Bruce Lake in the District of Kenora was nearing completion, for operation early in 1968. Also near completion were the 12-mile line from the vicinity of Stall Lake to the vicinity of Osborne Lake in The Pas district of Manitoba, and the 17-mile line from the vicinity of Watrous to the vicinity of Guernsey in the Regina Mining District of Saskatchewan, both scheduled for operation in March 1968. In addition, the CN constructed 100 miles of private sidings and industrial spurs to serve new manufacturing, warehousing and distributing facilities distributed along its lines.

In British Columbia, in November 1967 the first PGE train arrived at Fort St. John over the 108-mile extension from Prince George. This extension will continue for 80 miles northwest to Takla Landing. In addition, survey work was completed for the proposed 40-mile extension from Fort St. John to Beaton River on the 200-mile route to Fort Nelson.

1.—Railway Track Mileage Operated, 1900-66

NOTE.—Figures of total mileage of first main track operated for 1835-1959 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

FIRST MAIN TRACK MILEAGE ¹		TRACK MILEAGE BY AREA AND TYPE				
Year	Miles in Operation	Area and Type of Track	1963	1964	1965	1966
	No.		No.	No.	No.	No.
1900.....	17,657	First Main—				
1905.....	20,487	Newfoundland.....	934	934	936	936
1910.....	24,731	Prince Edward Island.....	279	279	279	279
1915.....	34,882	Nova Scotia.....	1,315	1,314	1,314	1,313
1920.....	38,805	New Brunswick.....	1,771	1,760	1,730	1,671
1925.....	40,350	Quebec.....	5,361	5,163	5,238	5,138
1930.....	42,047	Ontario.....	10,117	10,073	9,950	9,965
1935.....	42,916	Manitoba.....	4,860	4,858	4,735	4,735
1940.....	42,565	Saskatchewan.....	8,577	8,566	8,522	8,567
1945.....	42,352	Alberta.....	5,683	5,682	5,723	5,680
1950 ²	42,979	British Columbia.....	4,329	4,329	4,333	4,322
1955.....	43,444	Yukon Territory.....	58	58	58	58
1960.....	44,029	United States.....	339	339	339	339
1961.....	43,689	Totals, First Main.....	43,623	43,355	43,157	43,003
1962.....	43,654	Second main.....	2,016	2,010	2,004	1,999
1963.....	43,623	Other main.....	56	56	56	57
1964.....	43,355	Industrial.....	1,265	1,281	1,309	1,313
1965.....	43,157	Yard and sidings.....	11,551	11,541	11,676	11,728
1966.....	43,003	Grand Totals ³	58,511	58,243	58,202	58,100

¹ Defined as a single track extending the entire distance between terminals, upon which the length of the road is based. ² Newfoundland included from 1950. ³ Excludes joint track amounting to 61 miles in 1963, 58 miles in 1964, 55 miles in 1965 and 74 miles in 1966.

Rolling-Stock.—Table 2 shows the numbers of the various types of freight and passenger equipment in operation in 1959 and in 1966, revealing a generally downward trend over the period; however, these figures do not reflect the offsetting trend toward larger, more efficient cars and locomotives or the steady improvement in speed of movement facilitated by modernized handling and terminal services. Each year hundreds of units, particularly freight cars, are converted and modified to make them suitable for specific types of traffic or are replaced by special-purpose equipment designed for distinctive hauling jobs. The average capacity of all freight cars was 54.9 tons in 1966 compared with 51.1 tons in 1959. Also, although the number of diesel-electric locomotives in service has remained fairly static over this period, it should be noted that an extensive program of power up-grading has been followed by the railway companies. The combined tractive effort (the force exerted by powered equipment measured at the rim of the driving wheels) of all locomotives in 1966 averaged 58,927 lb. as compared with 53,368 lb. in 1959.

2.—Railway Rolling-Stock in Operation as at Dec. 31, 1959 and 1966

Type	1959	1966	Type	1959	1966
	No.	No.		No.	No.
Locomotives	4,720	3,329	Freight Cars	194,512	185,964
Steam—			Automobile.....	7,270	3,777
Coal-burning.....	1,143	—	Ballast.....	3,140	2,877
Oil-burning.....	371	—	Box.....	114,181	105,540
Diesel-electric.....	3,155	3,200	Flat.....	12,270	14,958
Electric.....	51	19	Gondola.....	20,428	19,992
Other ¹	—	110	Hopper.....	15,601	19,781
			Ore.....	5,964	6,110
Passenger Cars	5,456	3,660	Refrigerator.....	10,155	8,023
Coach.....	1,409	987	Stock.....	5,025	3,124
Combination.....	182	107	Tank.....	455	501
Colonist.....	96	34	Other.....	23	1,281
Dining.....	159	152			
Parlour.....	143	131			
Sleeping.....	919	679			
Baggage, express and postal.....	2,353	1,424	Privately Owned Cars²	4,853	6,750
Self-propelled.....	128	115	Tank.....	4,809	6,390
Other.....	67	31	Other.....	44	360

¹ Road freight units. ² Includes those of non-rail industrial firms such as oil, chemical and railway car leasing companies which furnish freight cars to, or on behalf of, any railway line.

Passenger and Freight Traffic.—Table 3 shows passenger and freight statistics for all railways for the years 1962-66. A separate analysis of the operations and traffic of the Canadian National Railways is given at pp. 802-805.

3.—Statistics of Passenger and Freight Service and Revenue, 1962-66

Item	1962	1963	1964	1965	1966
Passenger Service					
Revenue passenger-train miles ¹	'000 29,217	28,239	28,631	29,397	27,626
Passenger-train car miles ¹	" 296,950	285,942	308,941	306,574	275,998
Passengers carried ²	" 19,258	20,636	22,915	24,616	23,195
Passenger-miles.....	" 2,018,842	2,069,565	2,681,234	2,664,115	2,587,452
Passenger-miles per mile of line.....	No. 45,048	46,260	60,444	60,040	58,619
Average receipts per passenger-mile.....	cts. 3.00	2.88	2.38	2.47	2.43
Average receipts per passenger.....	\$ 3.15	2.89	2.78	2.67	2.71
Average passenger journey.....	miles 105	100	117	108	112
Average passengers per train.....	No. 69	73	94	91	94
Passenger-train revenue per passenger-train mile.....	\$ 3.56	3.51	3.64	3.68	3.72
Freight Service					
Revenue freight-train miles.....	'000 60,308	62,639	66,785	67,961	68,458
Revenue freight-train car miles ³	" 3,256,175	3,465,076	3,768,687	3,807,321	3,971,740
Freight carried ⁴	'000 tons 164,112	172,897	190,160	198,494	206,787
Freight ton-miles.....	'000 67,937,162	75,796,023	85,032,999	87,190,353	95,097,777
Freight ton-miles per mile of line.....	" 1,516	1,694	1,917	1,965	2,154
Freight receipts per ton per mile.....	cts. 1.50	1.41	1.37	1.39	1.39
Receipts per ton hauled.....	\$ 6.34	6.21	6.17	6.15	6.43
Average length of freight haul.....	miles 422	441	448	443	463
Average train load, revenue tons.....	No. 1,127	1,210	1,273	1,283	1,389
Average load per loaded car mile.....	tons 34.71	36.81	37.92	38.54	40.26
Revenue per freight-train mile.....	\$ 16.91	17.04	17.51	17.82	19.31

¹ Includes express, baggage, mail and other cars. ² Duplications included. ³ Includes cabooses miles but excludes miles made in passenger and non-revenue trains. ⁴ Excludes traffic handled by more than one railway; see Table 4 for details of freight carried.

The tonnage of revenue freight carried (including national loadings and receipts from United States connections) continues to increase year by year, the total in 1966 being 4.4 p.c. higher than in 1965. Of the main commodity groups, agricultural products, forest products and manufactures and miscellaneous products increased over the previous year, the largest contributors being wheat, pulpwood and fertilizers. Of the 205,500,000 tons carried in 1966 (excluding freight handled by more than one railway and in interme-

diate switching), mine products accounted for 40.0 p.c., manufactures and miscellaneous products for 32.0 p.c., agricultural products 17.1 p.c., forest products 9.7 p.c., animal products 0.7 p.c., and less-than-carload-lots for 0.5 p.c.; in 1965 the proportions were 41.9 p.c., 31.9 p.c., 15.4 p.c., 9.4 p.c., 0.8 p.c. and 0.6 p.c., respectively.

4.—Commodities Hauled as Freight by Railways, 1962-66

NOTE.—In this table duplications are eliminated, i.e., the same freight handled by two or more railways is counted only once. The statistics do not include the United States lines of the Canadian National Railways, but the link of the Canadian Pacific Railway line across Maine, U.S.A., is included, as are the Canadian sections of United States railways.

Commodity	1962	1963	1964	1965	1966
	tons	tons	tons	tons	tons
Agricultural Products	25,177,337	29,303,974	35,686,429	30,369,784	35,165,635
Wheat.....	13,403,510	16,311,535	21,154,965	17,173,187	21,893,103
Corn.....	1,046,821	966,449	1,037,039	1,090,003	1,006,127
Oats.....	935,985	1,556,288	1,229,384	1,344,012	1,110,485
Barley.....	1,740,092	2,189,993	2,706,816	2,253,706	2,242,250
Other grain.....	361,658	308,139	344,983	338,361	469,772
Flour, wheat.....	1,504,838	1,545,738	1,859,599	1,528,737	1,476,035
Other mill products.....	1,489,866	1,593,722	2,253,443	1,819,690	1,748,540
Potatoes, other than sweet.....	806,160	797,953	845,992	878,713	740,331
Sugar beets.....	477,670	609,150	618,206	509,311	492,309
Flaxseed.....	451,432	368,712	656,616	502,697	770,207
Other agricultural products.....	2,959,305	3,056,295	2,979,386	2,931,367	3,216,476
Animal Products	1,508,284	1,529,037	1,664,139	1,466,380	1,361,228
Cattle and calves.....	231,417	194,571	233,647	247,557	253,250
Other livestock.....	144,906	126,960	129,058	108,164	79,933
Meats and other edible packing-house products.....	591,605	672,350	757,418	635,258	594,779
Other animal products.....	540,356	535,156	544,016	475,401	433,216
Mine Products	65,236,842	71,828,970	75,242,381	82,458,654	82,161,162
Coal, bituminous.....	10,184,111	10,002,904	10,449,727	10,725,702	9,946,243
Other coal and coke.....	2,368,085	2,356,378	2,554,441	2,715,381	2,696,564
Iron ore.....	24,239,159	27,698,186	25,725,343	29,716,750	30,322,943
Ores and concentrates.....	8,012,497	7,364,175	9,344,104	11,508,223	11,958,267
Gravel and sand.....	6,258,480	6,513,801	7,770,785	7,299,497	6,926,139
Stone and rock, broken, ground, and crushed.....	5,017,049	5,430,004	5,387,391	6,123,381	6,079,453
Salt.....	1,587,575	1,194,617	1,268,105	1,461,173	1,276,302
Phosphate rock.....	1,024,374	1,023,821	1,159,566	1,425,307	1,797,824
Sulphur.....	775,359	1,309,600	1,890,805	2,060,798	1,988,338
Asbestos, not further processed than milled.....	1,073,988	1,054,276	1,206,608	1,176,143	1,257,248
Gypsum, crude.....	4,451,586	4,841,053	4,888,650	4,709,639	4,490,907
Other mine products.....	3,244,579	3,040,155	3,596,856	3,536,660	3,420,934
Forest Products	15,441,325	15,927,443	17,731,444	18,443,714	20,018,162
Logs, butts, bolts, posts, poles and piling, wooden.....	2,602,679	2,632,962	2,878,683	2,728,026	2,855,912
Pulpwood.....	4,867,930	4,857,912	6,026,932	7,213,616	8,830,933
Lumber, shingles and lath.....	6,608,073	6,941,623	7,241,194	6,871,158	6,638,619
Veneer, plywood, and built-up wood.....	855,776	887,076	989,971	1,061,932	1,186,997
Other forest products.....	506,867	607,870	594,664	568,982	505,699
Manufactures and Miscellaneous	49,342,838	52,062,773	58,413,648	62,848,885	65,841,178
Gasoline and petroleum products.....	6,962,657	7,647,090	8,124,687	8,854,208	9,390,586
Fertilizers.....	2,523,154	3,352,315	3,693,204	4,557,508	5,958,329
Iron and steel (bar, sheet, structural, pipe).....	3,709,838	4,056,599	5,472,140	5,358,719	5,396,331
Automobiles, trucks and parts.....	2,003,748	2,142,845	2,278,802	2,795,878	3,079,256
Cement.....	1,559,580	1,451,026	1,787,747	2,037,131	2,123,965
Wood pulp.....	3,048,415	3,186,693	3,431,137	3,538,129	3,846,137
Newsprint.....	4,232,493	4,121,218	4,497,987	4,772,914	5,053,177
Paper products and articles.....	2,526,684	2,569,820	2,765,142	2,932,569	3,239,213
Food products.....	1,402,267	1,445,897	1,545,857	1,552,481	1,636,882
Feed, animal and poultry.....	1,487,652	1,555,022	1,618,957	1,546,327	1,340,487
Scrap iron and scrap steel.....	1,131,288	1,413,518	1,656,025	2,189,398	1,968,177
Other manufactures and miscellaneous.....	18,755,062	19,120,730	21,541,963	22,713,623	22,808,638
Less-than-Carload Lots	1,223,715	1,083,429	958,344	1,229,470	963,702
Grand Totals	160,930,341	171,735,626	189,696,385	196,816,887	205,511,067

Railway Accidents.—Accidents shown in Table 5 include all those in which railway trains were involved and accidents on railway property; all passengers injured are included but, for employees, only those who were kept from work for at least three days during the 10 days following the accident are recorded. The classification of accidents used in reporting other DBS statistics treats collisions between motor vehicles and trains as motor vehicle accidents. Therefore, care should be exercised when compiling total accidental deaths of all kinds or when comparing results of accidents of different kinds, such as train and motor vehicle.

5.—Persons Killed or Injured on Railways, by Specified Cause, 1964-66

Item	1964		1965		1966	
	Killed	Injured	Killed	Injured	Killed	Injured
	No.	No.	No.	No.	No.	No.
ACCIDENTS RESULTING FROM MOVEMENT OF TRAINS, LOCO- MOTIVES OR CARS						
Class of Person—						
Passengers.....	8	138	2	273	4	216
Employees.....	23	1,078	20	1,180	20	1,299
Trespassers.....	61	42	50	53	75	47
Non-trespassers.....	159	493	157	557	205	540
Postal clerks, expressmen, etc.....	—	18	—	14	1	4
Totals.....	251	1,769	229	2,077	305	2,106
Description of Accidents (employees and passengers only)—						
Coupling and uncoupling.....	—	45	1	56	1	56
Collisions.....	11	79	6	94	8	66
Derailments.....	1	18	2	143	1	43
Falling from trains or cars.....	1	59	2	42	5	70
Getting on or off trains.....	2	284	2	310	1	357
Struck by trains, etc.....	10	15	4	18	4	15
Other causes.....	6	716	5	790	4	913
Totals.....	31	1,216	22	1,453	24	1,520
ALL OTHER ACCIDENTS						
Class of Person—						
Employees.....	10	2,054	15	2,332	6	2,537
Passengers.....	—	72	—	57	—	39
Others.....	2	77	1	73	2	71
Totals.....	12	2,203	16	2,462	8	2,647

Finances.—Tables 6 to 9 give information on capital liability and capital investment in road and equipment, operating revenues and expenses and employees and their earnings for all railways.* Financial statistics of government-owned railways are given separately and in detail in Subsection 2. A Uniform Classification of Accounts for common carriers became effective for the Canadian National and the Canadian Pacific Railways on Jan. 1, 1956, and for all other common carrier railways on Jan. 1, 1957. In transportation statistics, a distinction is made between expenditures and expenses. In the following data, the term 'expenses' is used as defined in the Uniform Classification of Accounts and refers to the expenses of furnishing rail transportation service and of operation incident hereto, including maintenance and depreciation of the plant used in such service.

* Statistics for individual railways are given in DBS annual report *Railway Transport*, published in six Parts Catalogue Nos. 52-207—52-212; details on capital liability are given in Part II (Catalogue No. 52-208).

6.—Capital Liability of Railways, 1957-66

NOTE.—Figures from 1876 are given in the corresponding table of previous Year Books beginning with the 1927-28 edition.
(Exclusive of Canadian railway capital owned by Canadian railways)

Year	Stocks	Funded Debt	Total ¹	Year	Stocks	Funded Debt	Total ¹
	\$	\$	\$		\$	\$	\$
1957.....	2,565,559,683	1,764,660,210	4,330,219,893	1962.....	2,769,152,492	2,245,189,028	5,014,341,520
1958.....	2,646,659,697	1,953,114,826	4,599,774,523	1963.....	2,791,044,973	2,183,556,139	4,974,601,112
1959.....	2,669,062,269	2,122,675,213	4,791,737,482	1964.....	2,815,148,215	2,181,454,852	4,996,603,067
1960.....	2,725,827,684	2,244,571,812	4,970,399,496	1965.....	2,843,118,935	2,187,613,273	5,030,732,208
1961.....	2,748,537,919	2,234,316,735	4,982,854,654	1966.....	2,896,641,376	2,205,599,116	5,102,240,492

¹ Exclusive of approximately \$40,000,000 railway debt in Newfoundland.

7.—Capital Invested in Railway Road and Equipment Property, 1962-66

NOTE.—Credit entries in this table result when the annual "write-offs" are greater than the annual investment in any category.

Investment	1962	1963	1964	1965 ^a	1966
	\$	\$	\$	\$	\$
Road.....	70,674,769	125,463,519	74,388,731	84,097,911	98,279,111
Equipment.....	7,258,657	Cr. 16,753,029	40,086,021	100,984,284	108,644,111
General.....	Cr. 243,729	84,786	45,989	325,546	1,134,111
Undistributed.....	12,905,861	Cr. 2,626,787	Cr. 7,538,650	Cr. 34,923,757	Cr. 18,946,111
CNR non-rail property ...	10,513,908	3,771,974	7,219,816	4,768,498	8,001,111
CPR " "	2,581,950	Cr. 8,845,548	Cr. 17,639,710	Cr. 43,698,195	Cr. 26,876,111
Other " "	Cr. 189,997	2,446,787	2,881,244	4,005,946	Cr. 71,111
Totals.....	90,595,558	106,168,489	106,982,091	150,483,984	189,111,111
Cumulative investment to Dec. 31.....	6,920,986,497	7,027,154,986	7,134,137,077	7,284,621,061	7,473,732,111

Revenues and Expenses.—Railway operating revenues and expenses continue to rise, both reaching peak levels in 1966; increases over 1965 amounted to 7.9 p.c. and 6.4 p.c. respectively, and, because the increase in expenses was lower than that in revenues, earnings increased.

Of the total operating expenses in 1966 amounting to \$1,374,900,000, those connected with the transporting of persons and property, such as station, yard and terminal service and employees, wharves, fuel, etc., accounted for 38.0 p.c.; equipment maintenance 21.5 p.c.; road maintenance for 18.9 p.c.; rents and taxes for 8.0 p.c.; expenses connected with traffic soliciting, such as advertising and information, ticket and freight offices, etc., for 2.8 p.c.; and miscellaneous expenses, including incidentals, dining and buffet service, grain elevators, etc., for the remaining 10.7 p.c. These proportions have remained fairly constant in recent years.

8.—Operating Revenues and Expenses of Railways, 1957-66

NOTE.—Operating revenues and expenses from 1875 are given in previous editions of the Year Book beginning with the 1916-17 edition.

Year	Total Operating Revenues	Total Operating Expenses	Ratio of Operating Expenses to Operating Revenues	Per Mile of Line			Freight-Train Revenue per Freight-Train Mile	Passenger-Train Revenue per Passenger-Train Mile
				Operating Revenues	Operating Expenses	Net Operating Revenues		
	\$	\$	p.c.	\$	\$	\$	\$	\$
1957.....	1,263,147,930	1,203,530,146	95.28	28,171	26,841	1,330	13.85	3.30
1958.....	1,163,735,417	1,182,277,504	97.30	25,766	25,070	696	14.51	3.11
1959.....	1,224,567,928	1,166,306,724	95.24	27,093	25,804	1,289	15.48	3.29
1960.....	1,151,655,456	1,109,470,426	96.34	25,544	24,608	936	15.54	3.46
1961.....	1,156,480,700	1,114,432,525	96.36	25,736	24,800	936	16.72	3.32
1962.....	1,165,296,722	1,119,662,072	96.08	26,002	24,984	1,018	16.91	3.56
1963.....	1,210,209,799	1,149,530,526	94.99	27,051	25,695	1,356	17.04	3.51
1964.....	1,324,422,492	1,241,258,655	93.72	29,857	27,982	1,875	17.51	3.64
1965.....	1,372,304,959	1,291,840,958	94.14	30,927	29,114	1,813	17.82	3.68
1966.....	1,480,822,951	1,374,872,316	92.85	33,548	31,148	2,400	19.31	3.72

Employment, Salaries and Wages.—Rail employment in 1966 was down slightly from the preceding year. Over the ten-year period 1957-66, employment dropped 28.7 p.c. but the average annual salary for the industry was 53.7 p.c. higher and total compensation paid was up 9.7 p.c. It should be noted that since 1964 employee data has been based on a new Uniform Canadian Classification of Railway Employees in which a bi-monthly method of counting was introduced; this method tends to reduce the number of employees by from 2 p.c. to 4 p.c. Details are given in DBS publication *Railway Transport, Part VI* (Catalogue No. 52-212).

9.—Railway Employees and Their Earnings, 1957-66

NOTE.—Figures include employees and wages for 'outside' operations amounting to from 3 p.c. to 6 p.c. of total employees and from 2 p.c. to 5 p.c. of total salaries and wages. Figures from 1912 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

Year	Employees ¹	Total Salaries and Wages	Average Salaries and Wages	Ratio of Total Payroll (charged to operating expenses) to—	
				Operating Revenues	Operating Expenses
	No.	\$	\$	p.c.	p.c.
1957.....	212,426	791,529,117	3,726	51.4	53.9
1958.....	192,809	757,907,896	3,931	52.7	54.3
1959.....	187,981	780,031,534	4,150	51.5	54.2
1960.....	175,537	740,475,804	4,218	52.0	54.2
1961.....	166,081	748,097,831	4,504	52.7	54.9
1962.....	162,861	747,301,214	4,589	51.4	53.7
1963.....	156,527 ²	756,862,741	4,835	50.4	53.1
1964.....	157,643 ²	798,537,454	5,065	49.1	52.3
1965.....	154,832 ²	831,818,991	5,372	49.3	52.4
1966.....	151,546 ²	867,918,293	5,727	49.3	53.1

¹ Includes employees engaged in communications, express cartage, highway transport (rail) and outside operations.

² See text above.

Express Services.—There are five express organizations operating in Canada, one of which exists as a subsidiary of the Canadian Pacific Railway Company and the business of the other four is handled by departments of the railways with which they are connected.

The companies are organized under federal legislative authority and are engaged primarily in the rapid transportation of package freight but their services also include custom brokerage, money orders, travellers cheques and other financial paper transactions. Recently, the major railways have introduced a unified service for handling small package express freight and less-than-carload-lot shipments, using the efficient facilities of their rail, piggyback and highway transport services to provide fast and competitive movement of goods. The eventual effects of this changing concept of express service will not be evident statistically until the integration processes are fully completed.

No statistics are available on the volume of express freight handled because much of it consists of parcels and small lots that cannot be classified. Table 10 shows the mileages operated by and the financial statistics of the express agencies for 1962-66 with figures by company for 1966.

10.—Summary Statistics of Express Companies, 1962-66

Year or Company	Mileages Operated in Canada ¹	Gross Earnings	Operating Expenses ²	Express Privileges ³	Net Operating Revenue
	No.	\$	\$	\$	\$
1962.....	70,985	83,877,337	64,086,906	19,041,953	748,478
1963.....	74,293 ⁴	79,031,998	62,127,111	16,167,030	737,857
1964.....	76,025 ⁴	81,728,007	64,918,242	16,162,703	647,062
1965.....	80,265 ⁴	85,927,546	67,329,413	17,949,002	649,131
1966.....	82,840 ⁴	89,265,075	73,051,191	15,631,246	582,638
1966					
Algoma Central and Hudson Bay Rly....	322	72,955	48,160	22,800	1,995
Canadian National Express.....	62,911	48,727,477	40,533,687	7,759,040	434,750
Canadian Pacific Express.....	16,552	34,054,312	28,341,203	5,566,409	146,700
Northern Alberta Railways.....	1,983	200,658	168,950	34,523	Cr. 2,815
Railway Express Agency, Inc.....	1,072	6,209,673	3,959,191	2,248,474	2,008

¹ Over railways, boat lines, motor carrier and aircraft routes.

² Includes tax accruals.

³ Amounts

paid by express companies to the carriers, i.e., railways, steamship lines, etc., for transporting express matter.

⁴ Excludes airline mileages of the Railway Express Agency.

Business transacted by express companies in financial paper is showing a downward trend, declining from \$137,434,334 in 1962 to \$122,411,975 in 1966. The latter was made up of: domestic and foreign money orders, \$95,849,108; C.O.D. cheques, \$15,405,453; travellers cheques, \$11,084,000; and telegraphic transfers, \$73,414. The major decrease was shown in the amount of money orders issued.

Section 2.—The Canadian National Railway System

In view of the interest in Canada's publicly owned railway, the Canadian National Railway System is given separate treatment in this Section. More detailed information than can be given here is obtainable from DBS annual report *Canadian National Railway*: (Catalogue No. 52-201).

Financial Statistics.—The original financial structure of the CNR and the step taken through the Capital Revision Acts of 1937 and 1952 to alleviate the burden of interest debt undertaken by the company on its formation in 1923 are described in the 1955 Year Book, pp. 840-847. Briefly, the Capital Revision Act of 1937 wrote off all loans that had been made to cover deficits and also unpaid interest on loans, and certain loans made for the purpose of additions and betterments were converted to equity capital, relieving the CNR from paying fixed charges on this amount. Under the 1952 Capital Revision Act 50 p.c. of the company's interest-bearing debt was changed to preferred stock on which

after settling income taxes, a dividend of 4 p.c. is paid on earnings. Also, for a term of ten years ended Jan. 1, 1962, the Railway was not obliged to pay interest on \$100,000,000 of its long-term debt. The Government is authorized to buy additional preferred stock annually in amounts related to the company's gross revenues. As a consequence, the proportion of total capitalization represented by equity capital in shareholders' account was raised from 34.5 p.c. at Dec. 31, 1951 to 67.2 p.c. at Jan. 1, 1952, and the proportion of borrowed capital was correspondingly reduced. By the end of 1966, the proportion represented by equity capital in shareholders' account was 51.3 p.c.

11.—Capital Structure of the Canadian National Railway System as at Dec. 31, 1957-66

At Dec. 31—	Shareholders' Capital		Funded Debt Held by Public		Government Loans and Appropriations—Active Assets in Public Accounts	Total
	Government of Canada Shareholders' Account	Capital Stock Held by Public	Guaranteed by Federal and Provincial Governments	Other		
	\$	\$	\$	\$	\$	\$
1957.....	1,639,451,306	4,505,870	730,346,711	17,978,788	623,967,851	3,016,250,526
1958.....	1,704,387,845	4,504,203	1,024,710,205	9,098,765	484,791,699	3,227,492,717
1959.....	1,723,909,722	4,503,549	1,335,510,205	5,548,765	345,684,052	3,415,156,293
1960.....	1,721,143,162	4,499,284	1,677,209,478	3,093,765	148,021,700	3,553,972,389
1961.....	1,744,673,266	4,499,273	1,670,653,176	2,423,765	164,593,150	3,586,842,630
1962.....	1,767,976,925	4,499,261	1,630,895,308	2,423,765	209,026,793	3,614,822,052
1963.....	1,792,380,188	4,485,785	1,378,875,000	2,023,764	410,354,762	3,588,119,499
1964.....	1,817,243,906	4,345,185	1,367,811,500	2,023,764	410,354,762	3,601,779,117
1965.....	1,843,209,298	4,345,185	1,366,061,500	2,023,764	410,354,762	3,625,994,509
1966.....	1,871,426,675	4,345,185	1,325,461,500	2,023,764	445,354,762	3,648,611,886

In Table 12 the assets of the Canadian National Railway System as at Dec. 31, 1965 and 1966 are shown.

12.—Assets of the Canadian National Railway System as at Dec. 31, 1965 and 1966

NOTE.—Assets as at the time of consolidation of the system (Dec. 31, 1922) are given in the 1963-64 Year Book, p. 764.

Account	1965	1966	Account	1965	1966
	\$	\$		\$	\$
Current Assets.....	252,586,015	275,393,057	Investments—concl.		
Cash.....	30,210,047	53,539,728	Improvements on leased property.....	1,384,318	1,416,332
Special deposits.....	26,369	26,560	Non-rail property.....	147,438,633	155,439,860
Traffic accounts receivable.....	2,752,377	4,204,163	Investments in affiliated companies.....	288,892,167	288,704,950
Agent and conductor balances.....	54,582,813	60,132,858	Other investments.....	3,853,705	4,689,126
Other accounts receivable.....	64,193,969	36,811,059	Deferred Assets.....	27,511,771	27,050,856
Government of Canada due on deficit account.....	12,017,755	6,155,732	Working fund advances.....	736,930	1,037,720
Material and supplies.....	71,083,427	76,835,257	Insurance and other funds.....	17,042,171	16,326,528
Interest and dividends receivable.....	2,990,874	4,744,095	Other deferred assets.....	9,732,670	9,686,608
Other current assets.....	14,728,384	32,943,605	Unadjusted Debits.....	30,089,173	28,077,247
Investments.....	4,468,857,050	4,592,066,667	Prepayments.....	2,215,986	2,123,816
Road and equipment property.....	4,027,288,227	4,141,816,399	Discount on funded debt.....	15,996,903	14,580,334
			Other unadjusted debts.....	11,876,279	11,373,097
			Totals.....	4,779,044,009	4,922,587,827

The financial details presented in Table 13 are those of the entire Canadian National Railway System, including both Canadian and United States operations. Revenues and expenses include those of express and commercial communications and highway transport (rail) operations. In conformity with the requirements of the Uniform Classification of Accounts adopted Jan. 1, 1956, tax accruals and rents are charged to operating expenses.

13.—Total Revenue, Operating Expenses, Net Revenue, Fixed Charges and Deficits of the Canadian National Railway System (Canadian and United States Operations), 1957-66

NOTE.—Figures from 1911 are given in the corresponding table of previous Year Books beginning with the 1936 edition.

Year	Total Operating Revenue	Total Operating Expenses	Income Available for Fixed Charges	Total Fixed Charges	Net Income or Deficit ¹	Cash Deficit or Surplus ²
	\$	\$	\$	\$	\$	\$
1957.....	753,165,964	755,214,378	6,913,660	36,971,680	Dr. 30,058,020	Dr. 29,572,541
1958.....	704,947,410	719,211,865	Dr. 4,779,895	46,521,236	" 51,301,131	" 51,591,424
1959.....	740,165,041	741,852,260	8,416,237	52,918,886	" 44,502,649	" 43,588,290
1960.....	693,141,106	705,818,310	1,504,828	69,469,961	" 67,965,133	" 67,496,777
1961.....	710,305,173	722,147,583	5,539,970	73,404,523	" 67,864,553	" 67,307,772
1962.....	738,324,754	738,882,680	23,308,683	74,443,482	" 51,134,799	" 48,919,454
1963.....	762,350,334	752,829,782	36,622,626	76,252,867	" 39,630,241	" 43,013,517
1964.....	822,483,679	811,471,248	37,886,007	74,673,809	" 36,787,802	" 38,725,904
1965.....	870,250,352	855,687,971	43,547,754	73,808,456	" 30,260,702	" 33,414,884
1966.....	953,219,471	923,801,723	62,535,164	76,983,524	" 14,448,360	" 22,155,732

¹ Includes appropriations for insurance fund.

² Contributed by or paid to the Government of Canada.

Mileage and Traffic.—At Dec. 31, 1966, the length of first main track owned by the Canadian National Railways (including electric lines and lines in the United States but excluding lines of the Northern Alberta Railways and Toronto Terminals Railway controlled jointly by the Canadian National and the Canadian Pacific Railways) was 24,145 miles.

14.—Train Traffic Statistics of the Canadian National Railways (Canadian and United States Lines), 1964-66

NOTE.—Includes electric lines.

Mileage and Traffic	1964	1965	1966
Train Mileage..... miles	58,135,511	60,209,381	61,451,268
Passenger service..... "	18,348,086	19,842,789	21,071,676
Freight service..... "	38,240,893	38,978,560	38,903,151
Work service..... "	1,546,532	1,388,032	1,476,441
Passenger-Train Car Mileage..... miles	195,491,301	213,883,541	215,902,395
Coaches and combination (excl. work service).... "	47,304,522	52,200,423	52,286,532
Motor unit cars..... "	3,952,648	4,175,168	5,520,942
Parlour, sleeping and dining cars..... "	64,319,706	72,389,721	78,533,402
Baggage, mail, express, etc..... "	79,914,425	85,118,229	79,561,519
Freight-Train Car Mileage..... miles	2,110,254,847	2,148,550,148	2,219,806,131
Loaded freight..... "	1,265,929,716	1,287,931,072	1,337,246,447
Empty freight..... "	804,111,089	819,787,190	841,349,486
Caboose..... "	40,214,042	40,831,886	41,210,198
Work-Train Car Mileage..... miles	2,651,373	2,786,107	2,154,537
Passenger Traffic—			
Passengers carried (earning revenue)..... No.	15,500,649	16,409,281 ^r	16,843,639
Passengers carried (earning revenue) one mile.... "	1,613,350,069	1,781,819,703 ^r	1,995,014,453
Passenger-miles per mile of road..... "	65,325	72,395 ^r	81,287
Average passenger journey..... miles	104.1	108.6 ^r	118.4
Average amount received per passenger..... \$	3.34	3.56 ^r	4.01
Average amount received per passenger-mile..... \$	0.03212	0.03274	0.03382

14.—Train Traffic Statistics of the Canadian National Railways (Canadian and United States Lines), 1964-66—concluded

Traffic	1964	1965	1966
Freight Traffic—			
Revenue freight carried..... tons	92,632,736	99,204,609	102,584,458
Revenue freight carried one mile..... "	44,516,285,706	46,130,503,687	49,642,587,020
Revenue freight carried one mile per mile of road..... "	1,802,487	1,874,264	2,022,699
Total (all classes) freight carried one mile per mile of road..... "	1,821,400	1,894,521	2,062,752
Average hauls, revenue freight..... miles	480.6	465.0	483.9
Gross ton-miles per freight-train hour..... No.	59,034	59,638	61,683
Freight revenue per ton..... \$	6.51	6.44	6.66
Freight revenue per ton-mile..... \$	0.01355	0.01385	0.01376

PART III.—ROAD TRANSPORT*

Highways and motor vehicles are herein treated as related features of transportation. An introductory Section summarizes provincial regulations regarding motor vehicles and motor traffic.

Section 1.—Provincial Motor Vehicle and Traffic Regulations†

NOTE.—It is obviously impossible to include here the great mass of detailed regulations in force in each province and territory; only the more important general information is given. The source of information for detailed regulations for each province and territory is given at pp. 808-809.

The registration of motor vehicles and the regulation of motor vehicle traffic lies within the legislative jurisdiction of the provincial and territorial governments. Regulations common to all provinces and territories are summarized as follows.

Operators' Licences.—The operator of a motor vehicle must be over a specified age, usually 16 years (17 in Newfoundland and 18 for class A licence in Alberta), and must carry a licence, obtainable in most provinces only after prescribed qualification tests. Such licence is renewable annually in Newfoundland, Saskatchewan, Yukon Territory and the Northwest Territories; in Alberta and British Columbia it is renewable every five years; in Prince Edward Island, New Brunswick, Quebec and Manitoba it is renewable every two years and, in Quebec, expires on the licensee's birth date; in Ontario a licence is issued on a three-year basis and expires on the licensee's birth date and in Nova Scotia a licence is issued on a three-year basis and expires at the end of the licensee's birth month. Special licences are required for chauffeurs in all provinces except Newfoundland. In Alberta a person under 16 but not under 14 years of age may be issued a licence to operate a scooter, which is defined as a motor vehicle with a speed limit not exceeding 30 miles an hour. In Saskatchewan, special tests are required for the operation of a motorcycle and the operator's licence is so endorsed.

Motor Vehicle Regulations.—All motor vehicles and trailers must be registered annually, with the payment of specified fees, and must carry two registration plates, one on the front and one on the rear of the vehicle (one only for the rear of trailers); in New Brunswick one licence plate is issued to be attached to the front of truck tractors and to the rear of all other vehicles; in Prince Edward Island, Quebec, Manitoba, Saskatchewan and Alberta one plate is issued for motorcycles, to be mounted on the rear. In most provinces, in event of sale the registration plates stay with the vehicle but in Quebec, Manitoba, Saskatchewan and Alberta the plates are retained by the owner. In Nova

* Except as otherwise indicated, the material in this Part has been revised in the Transportation and Public Utilities Division, Dominion Bureau of Statistics.

† Revised according to information received from the respective provincial authorities concerned.

Scotia, vehicles pass from owner to owner by due process of law and title must be secured before issue of plates and permit. A change of ownership of the vehicle must be recorded with the registration authority. However, exemption from registration is granted for a specified period (usually at least 90 days, except in Quebec where the maximum is three months, in British Columbia where it is six months, in Ontario where it is six months for vehicles from other provinces and three months for vehicles registered outside Canada, in Manitoba where residents may use registration plates from other jurisdictions for 90 days and visitors are exempt from registration provided the vehicle is not used for business purposes, and in Alberta where non-residents may operate vehicles currently registered in their home province or state of the United States on a temporary basis not exceeding three months) in any year to visitors' private vehicles registered in another province or a state that grants reciprocal treatment. Regulations require a safe standard of efficiency in the mechanism of the vehicle and of its brakes and stipulate that equipment include non-glare headlights, a proper rear light, a muffler, a windshield wiper, a rear-vision mirror, and a warning device.

Traffic Regulations.—In all provinces and territories, vehicles keep to the right-hand side of the road. Everywhere motorists are required to observe traffic signs, lights, etc., placed at strategic points on highways and roads. The speed limit in Prince Edward Island, New Brunswick, Quebec and Yukon Territory (unless otherwise posted) is 60 miles an hour in daytime and 55 at night; in Manitoba, it is 60 or 65, as posted, in daytime and 50 or 60 at night; in Alberta it is 60 in daytime and 50 at night, with the exception of a few selected sections of four-lane highway where higher speeds may be posted. In Nova Scotia the limit is a "reasonable and prudent" speed, with a maximum of 60 miles an hour except where 65 miles an hour is authorized. In Ontario maximum speeds vary from 50 to 60 miles an hour, depending on type of highway. In the other provinces the maximum speed permitted is normally 50 miles an hour; in Saskatchewan and British Columbia where higher speed limits are in effect they are posted. Slower speeds are required in cities, towns and villages (in Nova Scotia and British Columbia when passing schools and public playgrounds), at road intersections, railway crossings or at other places or times where the view of the highway for a safe distance ahead is in any way obscured. In most provinces, truck speed limits are at least five miles an hour below automobile speed limits although in Manitoba they are the same as for passenger vehicles. In all provinces and territories, accidents resulting in personal injury or property damage of \$100 or more must be reported to a police officer (in Nova Scotia to the Registrar of Motor Vehicles or to a police officer; in Quebec to a police officer or to the Motor Vehicle Bureau) and a driver involved must not leave the scene of an accident until he has rendered all possible aid and disclosed his name to the injured party.

Driver Licensing Controls.—All provinces and territories impose penalties for infractions of driving regulations, ranging from fines for minor infractions to suspension of the operator's driving permit, impounding of the car (except in the Northwest Territories), or imprisonment for more serious infractions. In most provinces penalties have been linked to a driver-improvement program, the aim of which is to correct faulty driving habits, not to take drivers off the road. The most common driver-improvement program includes the demerit-point-system.

Safety Responsibility Legislation.—Each province has enacted safety responsibility legislation (sometimes referred to as financial responsibility legislation). In general, these laws provide for the automatic suspension of the driver's licence and motor vehicle registration of a person convicted of a serious offence (impaired driving, driving under suspension, dangerous driving, etc.). It also provides for the automatic suspension of a person's driving licence and registration of the owner whose uninsured vehicle is involved directly or indirectly in an accident resulting in damage in excess of \$100 or injury or death to any person. In Saskatchewan a Judgment must be rendered for damages and, where such Judgment is rendered against the driver or owner, the driver's licence and registration

remain suspended until the Judgment is satisfied and proof of financial responsibility for the future is filed. In British Columbia proof of financial responsibility for the future is not required if suspension is for accident only. In Saskatchewan and the Yukon Territory, uninsured motor vehicles may be impounded following an accident of any consequence, i.e., an accident resulting in personal injury or death, or property damage in excess of \$100 (\$200 in Saskatchewan). In the Province of Quebec, pursuant to the Code of Civil Procedure, the plaintiff may seize before Judgment the motor vehicle which has caused him damage whatever the amount of property damage whether covered for third-party insurance or not. In Ontario, the non-resident motorist is not required to carry or produce any form of proof of insurance. In Manitoba, proof of insurance must be supplied at the time of registration but if such insurance expires or is cancelled registration of the vehicle is not suspended.

Although safety responsibility legislation has not been enacted in the Northwest Territories, under present requirements the owner of a motor vehicle resident in the Mackenzie Highway region must submit evidence of stipulated insurance coverage on such vehicle before he can obtain registration. In the Yukon Territory, proof of insurance must be supplied before vehicle licence is issued, and when the insurance expires or is cancelled vehicle licence plates must be returned to the Registrar of Motor Vehicles.

Unsatisfied Judgment Fund.—Legislation has been enacted in all provinces except Saskatchewan, and in the Yukon and Northwest Territories, usually in the form of an amendment to the motor vehicle laws of the province or territory, providing for the establishment of a fund, frequently called an Unsatisfied Judgment Fund (in Ontario, the Motor Vehicle Accident Claims Act; in Alberta, the Motor Vehicle Accident Claims Fund and in British Columbia, the Traffic Victims' Indemnity Fund), out of which are paid Judgments awarded for damages arising out of motor vehicle accidents in the province which cannot be collected in the ordinary process of law. In Newfoundland, Prince Edward Island, Nova Scotia, Quebec and British Columbia the fund is maintained by insurance companies. In all the other provinces, except Saskatchewan where insurance is compulsory, the funds are obtained by the annual collection of a fee from the registered owner of every motor vehicle or from every person to whom a driver's licence is issued. The fee usually does not exceed \$1 per annum; in Ontario a fee of \$25 is paid by the uninsured motorist (in the absence of the fee being paid the uninsured, if apprehended, is liable to a fine) and, in addition, the fund is subsidized by a \$1 annual charge from each licensed driver; in Alberta \$20 is collected from each uninsured owner of a motor vehicle at the time of registration or transfer; and Manitoba collects an additional \$25 from each uninsured owner at the time of registration.

A feature of this legislation, which is contained in some provincial statutes, is the provision for the payment of Judgments in hit-and-run accidents. When these occur, if neither the owner nor the driver can be identified, action may be taken against the Registrar of Motor Vehicles (the Minister of Finance in Newfoundland and the Administrator of the Motor Vehicle Accident Claim Fund in Alberta); any Judgment secured against the responsible authority is paid out of the Fund. All of these laws contain a provision limiting the amount that can be paid out of the Fund on one Judgment. In Newfoundland and Nova Scotia, the limits are \$10,000 for one person, \$20,000 for two or more persons injured in one accident and \$5,000 for property damage. In Nova Scotia and New Brunswick, the limit is \$35,000 in respect of any one accident. In Prince Edward Island and Quebec, the limit is \$35,000 for all damages in the same accident, subject to a deduction of \$200 from all damage to the property of others; damages resulting in bodily injury or death are, up to \$30,000, payable by priority over damages to property and the latter are, up to \$5,000, payable by priority over the former out of the amount of any insurance or other guarantee of indemnity. In British Columbia, the limit is based on the single amount of \$50,000 for any one accident with the provision that not more than \$5,000 may be paid on a property damage claim until injury claims up to \$45,000 have been satisfied; the \$35,000 limit exists for hit-and-run accidents but does not apply to

payments for property damage. In Alberta, the limit is \$35,000 for death or personal injury to one or more persons and \$5,000 for damage to property, subject to a limit of \$35,000 in any one accident; where in one accident claims result from bodily injury to or death of one or more persons and loss of or damage to property, claims arising out of bodily injury or death have priority over claims arising out of loss of or damage to property to the amount of \$30,000, and claims arising out of loss of or damage to property have priority over claims arising out of bodily injury or death to the amount of \$5,000, subject to a deduction of \$50. In Manitoba, the limit based on one accident is \$35,000, with Judgments arising out of bodily injury or death having priority to the extent of \$30,000 over claims resulting from loss of or damages to property; and Judgments arising out of loss of or damage to property having priority to the extent of \$5,000 over Judgments resulting from bodily injury or death; the maximum amount payable for a single Judgment resulting from loss of or damage to property is \$3,000, subject to a deduction of \$200.

In Ontario, the Motor Vehicle Accident Claims Act passed in 1962 replaced the Unsatisfied Judgment Fund which had been in effect since 1947. The new Act was streamlined to adjust promptly and efficiently all those claims incurred by the uninsured motorist. Claims could be adjusted much the same as by the insurance companies. The limits under the Act are \$35,000, inclusive of \$5,000 for any property damage claim. Many small claims are handled by the Ontario Department of Transport, subject to a \$50 franchise clause in respect to property damage, but the procedure is such that claims can be settled under Sect. 5 of the Act without resort to litigation. Sect. 6 covers Judgment cases and Sects. 11 and 14 cover the hit-and-run cases in which a Judgment is necessary and property damage is not payable.

Sources of information on provincial motor vehicle and traffic regulations:—

Newfoundland

Administration.—The Minister of Finance, St. John's.

Legislation.—The Highway Traffic Act, 1962 (amended 1964).

Prince Edward Island

Administration.—The Provincial Secretary, Charlottetown.

Legislation.—The Highway Traffic Act (SPEI 1964, c. 14).

Nova Scotia

Administration.—Registry of Motor Vehicles, Department of Highways, Halifax.

Legislation.—The Motor Vehicle Act (1954, c. 184, as amended) and the Motor Carrier Act (1958, c. 7, as amended).

New Brunswick

Administration.—Motor Vehicle Branch, Department of Provincial Secretary, Fredericton.

Legislation.—The Motor Vehicle Act (RSNB 1955, as amended).

Quebec

Administration.—Motor Vehicle Bureau, Department of Transportation and Communications, Parliament Bldgs., Quebec.

Legislation.—The Highway Code (RSQ 1964, c. 231, as amended) and the Highway Victims Indemnity Act (RSQ 1964, c. 232).

Ontario

Administration.—Ontario Department of Transport, Toronto.

Legislation.—The Highway Traffic Act (RSO 1960, c. 172, as amended), the Public Vehicles Act (RSO 1960, c. 337, as amended), the Public Commercial Vehicles Act (RSO 1960, c. 319, as amended), and the Motor Vehicle Accident Claims Act (1961-62, c. 84, as amended).

Manitoba

Administration.—Minister of Public Utilities, Winnipeg.

Legislation.—The Highway Traffic Act (SM 1966, c. 29) and The Unsatisfied Judgment Fund Act (SM 1965, c. 89).

Saskatchewan

Administration.—Highway Traffic Board, Revenue Building, Regina.

Legislation.—The Vehicles Act, 1965.

Alberta

Administration and Legislation.—The Motor Vehicle Accident Claims Act (SA 1964, c. 56) and the Highway Traffic Act (SA 1967, c. 30) are administered by the Motor Vehicle Branch, Department of Highways, Edmonton. The Public Service Vehicles Act (RSA 1955, c. 265) and the Rules and Regulations are administered by virtue of authority vested in the Highway Traffic Board, Department of Highways, Edmonton.

British Columbia

Administration and Legislation.—Enforcement of the Motor Vehicle Act, the Commercial Transport Act and the Motor Carrier Act is vested in the Royal Canadian Mounted Police and the various municipal police forces. The Motor Carrier Act is administered by the Public Utilities Commission, the Motor Vehicle Act by the Superintendent of Motor Vehicles and the Commercial Transport Act by the Minister of Commercial Transport, Victoria, B.C.

Yukon Territory

Administration.—Commissioner of the Yukon Territory, Whitehorse, Y.T. Information regarding regulations may also be obtained from the Registrar of Motor Vehicles, Government of the Yukon Territory, Whitehorse, Y.T.

Legislation.—The Motor Vehicles Ordinance (Revised Ordinances 1958, c. 77, as amended).

Northwest Territories

Administration.—Commissioner of the Northwest Territories, Yellowknife, N.W.T.

Legislation.—The Motor Vehicle Ordinance (Revised Ordinances of the Northwest Territories, 1956, c. 72, as amended).

Section 2.—Highways, Roads and Streets

Highways and Roads.—The populated sections of Canada are well supplied with highways and roads. Access to outlying settlements is provided to some extent by roads built by logging, pulp and paper, and mining companies, although these are not generally available for public travel. At the same time, great areas of Newfoundland, Quebec, Ontario, the Prairie Provinces, British Columbia and the Territories are very sparsely settled and are virtually without roads of any kind.

At the end of 1966 the reported mileage of highways and rural roads was 444,742 miles, a figure that includes all roads under provincial jurisdiction, federal roads (except for all but flexible pavement roads in Indian reservations), and local roads under municipal jurisdiction other than the roads and streets in census metropolitan areas and urban centres of more than 1,000 population. Mileage for the latter is given separately under the heading of "Urban Streets".

1.—Highway and Rural Road Mileage classified by Type and by Province, 1966

Province or Territory	Surfaced			Earth	Total
	Rigid Pavement	Flexible Pavement	Gravel		
	miles	miles	miles	miles	miles
Newfoundland.....	—	1,024	3,840	563	5,427
Prince Edward Island.....	445	901	1,279	647	3,273
Nova Scotia.....	10	4,098	4,903	6,499	15,510
New Brunswick.....	—	1,818	11,353	—	13,171
Quebec.....	13,319	1,346	31,396	9,686	55,747
Ontario.....	1,597	20,829	51,416	3,861	77,703
Manitoba.....	253	2,775	26,717	13,767	43,512
Saskatchewan ¹	—	6,265	50,734	67,616	124,615
Alberta.....	19	5,290	55,497	13,766	74,563
British Columbia.....	21	6,796	14,615	7,058	28,490
Yukon and Northwest Territories.....	—	4	2,636	91	2,731
Canada.....	15,655	51,146	254,388²	123,553²	444,742

¹ Includes road allowances.² Not the exact sum of the above items, due to rounding.

Expenditure on highways and rural roads in the year ended Mar. 31, 1967, totalled \$1,392,643,000, an amount 10.9 p.c. higher than that for the previous fiscal year; construction expenditures increased by 11.2 p.c. and maintenance costs by 8.4 p.c.

2.—Construction, Maintenance and General Expenditure on Highways, Rural Roads, Bridges and Ferries, by Province, Years Ended Mar. 31, 1966 and 1967

Item and Province or Territory	1966	1967	Item and Province or Territory	1966	1967
	\$'000	\$'000		\$'000	\$'000
Construction.....	884,334	983,688	Administration and General¹...	64,121	75,525
Newfoundland.....	43,802	26,248	Newfoundland.....	744	754
Prince Edward Island.....	8,108	10,629	Prince Edward Island.....	284	352
Nova Scotia.....	28,744	44,993	Nova Scotia.....	2,303	2,471
New Brunswick.....	30,555	36,988	New Brunswick.....	2,561	2,428
Quebec.....	295,129	298,913	Quebec.....	8,975	10,270
Ontario.....	245,036	264,987	Ontario.....	33,980	42,528
Manitoba.....	37,082	39,039	Manitoba.....	2,590	2,838
Saskatchewan.....	49,024	78,976	Saskatchewan.....	4,493	5,739
Alberta.....	63,971	86,098	Alberta.....	941	968
British Columbia.....	76,601	87,344	British Columbia.....	6,091	5,953
Yukon and Northwest Terri- tories.....	6,343	9,473	Yukon and Northwest Terri- tories.....	969	1,054
Maintenance.....	307,553	333,430	Totals.....	1,256,068	1,392,643
Newfoundland.....	11,981	11,607			
Prince Edward Island.....	2,786	3,497			
Nova Scotia.....	13,958	16,921	Distribution of Expenditure—		
New Brunswick.....	13,496	13,940	Federal.....	144,733	179,402
Quebec.....	87,188	89,014	Provincial.....	1,006,231	1,101,055
Ontario.....	81,279	94,104	Municipal.....	98,388	106,752
Manitoba.....	9,915	11,790	Other.....	6,717	5,433
Saskatchewan.....	15,203	13,356			
Alberta.....	27,541	29,205			
British Columbia.....	35,921	40,341			
Yukon and Northwest Terri- tories.....	8,284	9,626			

¹ Includes federal administrative costs re Trans-Canada Highway amounting to \$190,000 in 1965-66 and \$170,000 in 1966-67.

Federal-Provincial Road Assistance Programs.—There are various programs existing between the Federal Government and the provinces relating to highway and road construction, the co-ordination of which is the responsibility of the federal Minister of Transport who reports to Parliament on federal road policy. When major programs of assistance have been decided upon, their implementation is undertaken either by the Department of Public Works or by the sponsoring Department.

The Trans-Canada Highway.—The original federal-provincial agreement for construction of the Trans-Canada Highway is given in outline, together with data on specifications and route across the participating provinces, in the 1951 Year Book, pp. 631-634. Construction progress and changes in legislation are reported in subsequent editions.

Under the Act, which became effective Dec. 10, 1949, agreements covering the Federal Government's participation in the cost of construction were entered into with each of the provinces. Construction standards were set and the date of completion fixed. The shortest practicable east-west route was to be designated by each province within its own borders, in agreement on terminal points with adjoining provinces, and those sections within the National Parks were to be the responsibility of the Federal Government. Later amendments to the Act increased the extent of federal financial participation and extended the period in which construction costs might be incurred under the Act to Dec. 31, 1970.

Although construction was still going on in a number of sections, the closing in 1962 of the last major gap—in the Rocky Mountains—made it possible for the first time to drive the entire length of the 4,860-mile route. The Trans-Canada Highway was officially opened on Sept. 3, 1962. Provincial mileages are approximately as follows: Newfoundland

540; Prince Edward Island, 71; Nova Scotia, 318; New Brunswick, 390; Quebec, 399; Ontario, 1,453; Manitoba, 309; Saskatchewan, 406; Alberta, 282; and British Columbia, 552. Length through the National Parks totals 140 miles.

Up to Mar. 31, 1967, contractual commitments for new construction on the Highway amounted to \$1,107,628,114, of which the federal share was \$743,588,371. Federal payments to the provinces for prior, interim and new construction totalled \$654,264,654. Paving to specified standards had been completed over a distance of 4,260 miles and 841 bridges, overpasses and other structures of more than 20-foot span had been or were being constructed.

Northern Roads.—In the past decade it has become increasingly apparent that if Canada is to benefit from supplying a large part of the world's increasing demands for minerals, a well-planned road network in the Yukon and Northwest Territories is imperative. In 1965, after thorough planning and detailed research, the Federal Government announced the Northern Road Network Program, calling for the construction of roads in the Territories to cost \$10,000,000 a year for a ten-year period. This period, in turn, is part of a 20-year plan intended to bring all resource-potential areas covered by the Program within 200 miles of the nearest permanent road. This will gradually reduce the dependence of the North on seasonal transportation for bulk shipments, reduce the cost of holding large inventories and, as the program progresses, bring the cost of living in communities more in line with that in other parts of Canada and also stimulate the growth of the tourist industry.

Types of roads and the proportion of federal assistance under the Program are as follows:—

Communication and Network Roads—highways, major roads and secondary and local roads to provide a primary network in the Territories, including trunk highways, secondary trunk roads and airport roads; construction and 85 p.c. of maintenance costs will be paid by the Federal Government.

Tote Trails—low standard roads to provide temporary, seasonal or year-round access to the property of a company exploring or developing a natural resource; up to 50 p.c. or \$20,000 of the cost may be contributed by the Territory concerned.

Initial Access Roads—low standard roads to provide the same service as Tote Trails but where the contribution under the Tote Trail category would be insufficient; federal assistance may be up to 50 p.c. of the cost or 5 p.c. of expenditures on the exploration or development project.

Permanent Access Roads—from the nearest permanent road to the location of a resource development that has been brought to the preproduction stage; federal assistance may be up to but not exceeding (a) 66⅔ p.c. of the total cost, (b) 15 p.c. of the capital invested by the company before start of production, or (c) \$40,000 per mile.

Resource Development Roads—leading from the nearest permanent area in which two or more resource projects have reached the production stage; all construction costs are to be paid by the Federal Government but expenditures will not be undertaken unless it is proven that the projects to which the road leads can be operated commercially for many years.

Area Development Roads—low standard roads into or through an undeveloped region of favourable natural resource potential; construction is the responsibility of the Federal Government.

Roads to Public Airports (land or water)—to connect airports with the nearest road network or local road; construction and 85 p.c. of maintenance will be paid by the Federal Government.

In the Yukon Territory under this Program, approximately 1,360 miles of road constructed at a cost of about \$34,000,000 were in use in 1966-67; in the Northwest Territories and Wood Buffalo National Park, about 1,050 miles at a cost of about \$34,000,000 were in use by March 1967. Work done on the extension of the Mackenzie Highway to Fort Simpson in 1967 amounted to approximately 20 miles; an additional 60-mile, two-year contract will be let in 1968, and eventually this road may be extended down the Mackenzie Valley, possibly to the Arctic Coast. A smaller road system exists in the Fort Smith area, including the Fitzgerald-Bellrock portage road and the park administrative roads in Wood Buffalo National Park. Total length of this road system is about 274 miles.

In Yukon Territory, a 142-mile area development road from Ross River to Carmacks is expected to be completed in late 1968. In addition to opening up a potentially rich resource area, this road is of special interest to tourists since it will provide a route from Watson Lake on the Alaska Highway to and through Carmacks, Dawson, and onward to the Alaska border where it will connect with the State of Alaska Highway System. In addition, the Federal Government has agreed to improve existing routes or build new ones to tidewater at either Haines or Skagway in the Alaska Panhandle, a distance of almost 400 miles, to facilitate shipment of lead-zinc concentrates to Japan. Surveying is under way in preparation for the extension of the Dempster Highway in Yukon Territory, now in use for 78 miles, to Fort McPherson in the Northwest Territories.

Roads to Resources.—In 1958, a federal-provincial cost-sharing program was undertaken, designed to provide access roads to areas potentially rich in natural resources or to areas with tourist potential. The share of the Federal Government was 50 p.c. of the total cost of each province's projects up to a maximum of \$7,500,000. Agreements were signed by all provinces, resulting in the construction of close to 5,000 miles of road, and the program has been completed.

Construction and Improvement of Trunk Highways in the Atlantic Provinces.—This program, announced in February 1965, involves an expenditure by the Federal Government of \$30,000,000 over a three-year period to be financed from special appropriations to the Atlantic Development Board. The additional appropriations enable the Board to continue and expand a program of highway assistance begun in 1964 when \$10,000,000 was allocated from the Atlantic Development Fund to meet pressing trunk highway needs in the Atlantic region. Expenditures approved and funds disbursed by the Atlantic Development Board under this program up to Mar. 31, 1967, were \$19,347,741 and \$10,652,259, respectively. (See also Chapter XXIV, Sect. 6, Subsect. 2.)

Urban Streets.—Information on urban streets is obtained from the local administrations of all areas with populations of over 1,000, all areas located within census metropolitan areas, improvement districts with over 1,000 population and rural municipalities with over 15,000 population. Brief statistical data are given in Table 3; more detail may be obtained from DBS annual report *Road and Street Mileage and Expenditure* (Catalogue No. 53-201).

3.—Statistics of Urban Streets, 1965 and 1966

Item		1965	1966
Total Expenditure Reported¹	\$'000	329,308	378,396
New construction.....	"	165,738	201,020
Reconstruction, repair, cleaning, sanding, snow removal, administration, etc..	"	163,570	177,376
Total Urban Mileage	No.	44,312	44,930
Rigid pavement.....	"	7,073	7,374
Flexible pavement.....	"	20,832	21,640
Gravel and other surfaces.....	"	14,370	14,258
Earth.....	"	2,037	1,658

¹ Includes expenditures on sidewalks, footpaths, bridges and ferries.

Section 3.—Motor Vehicles

Motor Vehicle Registrations.—Registrations continue to increase year by year, a record of 7,035,261 being reached in 1966. Of that total, 5,499,527 were passenger cars—one for every 3.6 persons. Registrations by province are given in Table 4 and types of vehicles registered by province in Table 5.

4.—Motor Vehicles Registered, by Province, 1957-66

NOTE.—Registrations given here include passenger cars, trucks, buses, motorcycles, service cars, etc., but not trailers or dealer licences. Figures from 1964 are given in the corresponding table of previous Year Books beginning with the 1937 edition.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total ¹
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1957.....	47,982	23,725	164,286	116,712	901,065	1,793,499	246,188	300,326	405,229	491,884	4,497,091
1958.....	51,575	25,504	164,954	121,715	968,058	1,868,922	256,064	314,423	430,081	515,244	4,723,825
1959.....	51,145	27,502	189,435	129,629	1,040,366	1,973,737	269,974	326,690	456,458	545,491	5,017,686
1960.....	61,952	30,147	187,065	138,469	1,096,053	2,062,484	285,689	335,148	486,370	564,351	5,256,341
1961.....	65,270	32,166	206,691	145,951	1,183,978	2,126,270	299,998	349,817	509,298	588,280	5,517,023
1962.....	74,119	33,888	206,370	151,360	1,281,180	2,177,148	312,272	372,219	535,459	620,426	5,774,810
1963.....	79,422	35,314	212,034	156,768	1,381,801	2,269,320	324,806	382,190	560,490	662,453	6,074,655
1964.....	87,990	35,062	222,827	165,311	1,441,201	2,381,219	339,509	396,742	583,713	716,644	6,382,033
1965.....	92,885	33,849	233,653	174,428	1,480,743	2,516,680	342,335	418,606	606,754	786,310	6,698,778
1966.....	95,704	35,299	234,532	183,676	1,556,342	2,643,474	356,693	438,558	638,852	838,992	7,035,261

¹ Includes registrations in the Yukon and Northwest Territories; in 1966 they numbered 8,015 and 5,124, respectively.

5.—Types of Motor Vehicles Registered, by Province, 1965 and 1966

Year and Province or Territory	Passenger Cars ¹	Commercial Cars, Trucks, etc. ²	Buses	Motorcycles	Total
	No.	No.	No.	No.	No.
1965					
Newfoundland.....	69,900	22,155	380	450	92,885
Prince Edward Island.....	25,796	7,843	10	200	33,849
Nova Scotia.....	173,389	51,896	1,219	2,149	233,653
New Brunswick.....	137,137	34,475	752	2,064	174,428
Quebec.....	1,145,785	307,630	10,742	16,586	1,480,743
Ontario.....	2,139,696	344,519	8,395	24,070	2,516,680
Manitoba.....	260,339	78,524	196	3,276	342,335
Saskatchewan.....	267,771	148,026	269	2,540	418,606
Alberta.....	424,217	169,379	4,188	8,970	606,754
British Columbia.....	623,742	149,192	s	13,376	786,310
Yukon and Northwest Territories.....	6,601	5,559	89	286	12,535
Canada, 1965.....	5,279,373	1,319,198	26,240	73,967	6,698,778
1966					
Newfoundland.....	71,839	22,520	600	745	95,704
Prince Edward Island.....	26,689	8,140	10	460	35,299
Nova Scotia.....	174,380	55,168	1,316	3,668	234,532
New Brunswick.....	144,900	34,523	778	3,475	183,676
Quebec.....	1,186,876	332,401	12,080	24,985	1,566,342
Ontario.....	2,235,489	360,719	9,307	37,959	2,643,474
Manitoba.....	270,175	81,454	242	4,822	356,693
Saskatchewan.....	272,749	157,646	3,813	4,350	438,558
Alberta.....	445,195	177,610	4,432	11,615	638,852
British Columbia.....	664,791	158,814	s	15,387	838,992
Yukon and Northwest Territories.....	6,444	6,131	96	468	13,139
Canada, 1966.....	5,499,527	1,395,126	32,674	107,934	7,035,261

¹ Includes taxis.

² Includes service cars, road tractors, etc.

³ Included with trucks.

Apparent Supply of Automobiles.—The apparent supply of automobiles in Canada in any year is computed by deducting the number exported from the sum of the production and imports. Statistics regarding retail sales and the financing of motor vehicle sales are given in Chapter XXI on Domestic Trade and Prices.

6.—Apparent Supply of New Automobiles, 1957-66

Year	Cars Made for Sale in Canada		Car Imports		Re-exports of Imported Cars		Apparent Supply	
	Pas-senger	Com-mercial ¹	Pas-senger	Com-mercial	Pas-senger	Com-mercial	Pas-senger	Com-mercial ¹
	No.	No.	No.	No.	No.	No.	No.	No.
1957.....	318,416	64,857	70,796	9,215	65	39	389,147	74,033
1958.....	280,677	55,908	104,195	9,182	190	8	384,682	65,082
1959.....	285,841	63,429	153,932	11,632	549	6	439,224	75,055
1960.....	307,499	66,293	170,653	9,376	179	56	477,973	75,613
1961.....	312,599	60,332	106,865	9,487	700	35	418,764	69,784
1962.....	412,120	78,094	94,655	4,413	194	67	506,581	82,440
1963.....	513,785	93,912	59,634	3,193	391	38	573,028	97,067
1964.....	520,743	104,446	82,490	3,160	1,277	17	611,956	107,589
1965.....	636,733	119,917	136,446	6,675	1,192	41	771,992	128,551
1966.....	506,111	114,211	188,667	16,172	379	45	694,399	130,338

¹ Includes Armed Forces vehicles.

Provincial Government Revenue from Motor Vehicles.—The taxation of motive fuels, motor vehicles, garages, drivers, chauffeurs, etc., is an important source of provincial government revenue. In every province licences or permits duly issued by the provincial authorities are required for motor vehicles of all kinds, trailers, operators or drivers, paid chauffeurs, dealers, garages and gasoline and service stations. In 1966 the average cost per motor vehicle for operating taxes and licences was about \$141.

The more important sources from which provincial revenue from motor vehicles is derived are shown in Table 7. Motive fuel tax rates are given in the Public Finance Chapter, Section 2, Subsection 2 on Provincial Taxes; Federal Government revenue from excise and sales taxes is given in the same Chapter, Section 3, Subsection 3 on Revenue from Taxation.

7.—Provincial Revenue from the Registration and Operation of Motor Vehicles, by Province, Years Ended Mar. 31, 1966 and 1967

Year and Province or Territory	Passenger Automobile Licences	Truck, Bus, Trailer and Other Vehicle Licences	Motorcycle Licences	Chauffeur, Driver and Dealer Licences ¹	Public Service Vehicle Tax	Motive Fuel Taxes	Total ²
	\$	\$	\$	\$	\$	\$	\$
1965-66							
Newfoundland.....	1,209,403	1,682,567	3,457	439,360	456	11,974,477	15,809,209
Prince Edward Island..	480,291	382,635	710	97,381	600	3,546,470	4,529,694
Nova Scotia.....	3,657,772	3,214,672	3	491,526	124,205	24,778,878	32,822,643
New Brunswick.....	3,190,441	2,718,377	9,687	412,508	—	20,130,088	26,911,058
Quebec.....	28,055,770	25,352,496	66,344	4,953,666	1,731,158	190,982,103	251,388,190
Ontario.....	43,611,434	39,486,262	323,757	4,899,695	4,124,416	251,501,969	348,854,193
Manitoba.....	5,337,079	4,311,331	16,596	2,172,360	1,355,938	39,429,932	53,447,299
Saskatchewan.....	3,919,780	4,836,220	4	544,714	—	30,014,895	40,521,226
Alberta.....	6,330,369	8,966,331	5	454,959	212,713	43,113,875	60,652,606
British Columbia.....	12,155,293	10,716,927	63,196	1,517,923	358,786	55,756,091	81,676,348
Yukon and N.W.T.....	74,169	92,460	964	29,522	92,957	743,366	1,091,283
Canada, 1965-66...	106,021,861	101,760,278	484,711⁶	16,013,614	8,001,229⁶	671,972,144	917,703,749

For footnotes, see end of table.

**7.—Provincial Revenue from the Registration and Operation of Motor Vehicles,
by Province, Years Ended Mar. 31, 1966 and 1967—concluded**

Year and Province or Territory	Passenger Automobile Licences	Truck, Bus, Trailer and Other Vehicle Licences	Motorcycle Licences	Chauffeur, Driver and Dealer Licences ¹	Public Service Vehicle Tax	Motive Fuel Taxes	Total ²
	\$	\$	\$	\$	\$	\$	\$
1966-67							
Newfoundland.....	1,368,201	1,889,253	7,490	464,409	357	13,605,198	17,880,946
Prince Edward Island..	498,558	391,088	1,736	96,595	700	3,938,519	4,989,998
Nova Scotia.....	3,434,937	3,309,386	³	508,376	136,440	27,176,133	35,226,108
New Brunswick.....	3,367,985	2,902,869	20,853	439,457		22,136,452	29,363,260
Quebec.....	27,099,294	29,769,094	99,940	2,729,072	1,905,539	199,617,461	263,409,566
Ontario.....	44,564,068	41,780,333	385,312	4,521,629	4,816,421	284,580,901	386,247,008
Manitoba.....	5,531,745	4,625,497	25,145	195,883	1,459,564	40,443,238	53,121,652
Saskatchewan.....	3,923,143	5,345,928	⁴	537,588	—	34,133,488	45,083,721
Alberta.....	6,672,636	9,524,604	⁵	934,126	239,729	46,031,572	64,982,850
British Columbia.....	13,005,087	10,998,294	70,626	1,601,272	384,474	61,158,463	88,539,650
Yukon and N.W.T.....	81,868	95,939	1,371	31,296	92,147	889,598	1,254,493
Canada, 1966-67...	109,547,522	110,632,285	612,473⁶	12,059,703	9,035,371⁶	733,711,023	990,099,252

¹ Operators' licences are issued for different periods in different provinces; see p. 805 for provincial regulations.

² Includes other items not shown such as transfer of motor vehicles, garage and service station licences, and fines for infractions of motor vehicle laws.

³ Included with other motor vehicles.

⁴ Included with miscellaneous revenues and therefore in total.

⁵ Included with passenger automobiles.

⁶ Not complete.

Sales of Motive Fuels.—In order to estimate the total amount of motive fuel purchased in Canada for use in motor vehicles on public streets and highways, it has been necessary to eliminate from the total the amount of motive fuel used for other purposes. Thus, from the total or gross sales, including imports and exports, the following are subtracted to obtain net sales: tax exempt sales to the Federal Government and other consumers, exports, and sales on which refunds were paid. Net sales are thus defined as sales on which a tax or taxes have been paid in full and are considered to approximate the actual amount of motive fuel purchased in Canada for use on public streets and highways. As shown in Table 8, consumption of taxable gasoline, which is used almost entirely for automotive purposes, rose 6.8 p.c. in 1966 and net sales of diesel oil 15.2 p.c.

8.—Sales of Motive Fuels, by Province, 1962-66

Province or Territory	1962	1963	1964	1965	1966
GASOLINE AND LIQUEFIED PETROLEUM GASES					
	gal.	gal.	gal.	gal.	gal.
Newfoundland.....	42,326,939	46,158,513	51,205,828	59,214,001	64,865,831
Prince Edward Island..	18,964,066	19,687,378	20,753,975	21,625,345	23,912,161
Nova Scotia.....	117,994,058	122,355,774	129,977,561	136,170,762	145,158,633
New Brunswick.....	89,144,726	92,485,963	99,370,060	107,558,514	115,280,161
Quebec.....	843,642,435	899,756,445	938,822,568	1,060,362,285	1,144,022,116
Ontario.....	1,511,424,379	1,477,127,028	1,594,284,345	1,673,758,797	1,769,013,364
Manitoba.....	213,294,660	222,604,138	225,783,740	232,410,160	241,251,953
Saskatchewan.....	295,985,892	314,940,380	318,863,410	351,479,362	370,163,766
Alberta.....	565,553,393	422,082,129 ¹	439,543,671	457,092,775	481,041,874
British Columbia.....	361,164,628	380,461,856	422,975,317	441,806,409	492,890,837
Yukon and N.W.T.....	6,870,923	7,764,476	8,478,347	8,739,575	9,742,794
Totals, Gross Sales.....	4,066,366,099	4,005,424,080	4,250,059,422	4,550,217,985	4,857,343,490
Refunds and exemptions.....	809,440,450	565,077,175	548,683,750	560,903,911	594,886,008
Totals, Net Sales.....	3,256,925,649	3,440,346,905	3,701,375,672	3,989,314,074	4,262,457,482

¹ The marked decrease in this figure is attributable to the elimination of 125,000,000 gal. of liquefied petroleum gases used for domestic and industrial heating and power. Net sales are not affected by this change.

8.—Sales of Motive Fuels, by Province, 1962-66—concluded

Item	1962	1963	1964	1965	1966
DIESEL OIL					
	gal.	gal.	gal.	gal.	gal.
Totals, Net Sales.....	153,570,626	193,180,457	210,642,160	259,943,441	299,389,896

Motor Transport Traffic.—Statistics of motor transport traffic, given for 1963 and 1964 in the 1967 Year Book, pp. 813-814, and in detail in DBS reports Catalogue Nos. 53-207—53-214, are not currently available for later years because of the eventual revision of the series.

Motor Carriers—Freight.*—Statistics of the common carrier segment of the intercity and rural motor carrier industry have been collected on a continuing basis since 1941. Statistics of contract carriers are available from 1958.

* Statistics are given in more detail in DBS annual report *Motor Carriers—Freight*, Part I (Catalogue No. 53-222) and Part II (Catalogue No. 53-223).

9.—Summary Statistics of Motor Carriers—Freight, 1964 and 1965

Item		Common		Contract	
		1964	1965	1964	1965
Carriers Reporting.....	No.	2,884	2,885	1,496	1,448
Property Account—Fixed Assets (Motor carrier business).....	\$	322,064,565	380,095,350	82,727,064	103,750,118
Operating Revenues.....	\$	463,025,745	546,581,495	94,313,328	121,712,591
Freight—					
Intercity and rural.....	\$	445,308,953	524,404,233	90,545,134	115,546,480
Local.....	\$	6,795,166	8,456,888	1,711,438	3,290,193
Other.....	\$	10,921,626	13,720,374	2,056,756	2,875,918
Operating Expenses.....	\$	435,814,377	517,034,003	86,305,832	111,421,833
Maintenance.....	\$	57,672,243	67,070,082	15,035,482	19,022,228
Wages of drivers and helpers.....	\$	91,075,676	106,523,338	20,059,501	25,283,272
Other (fuel, insurance, fuel taxes, rents, depreciation and purchased transportation).....	\$	171,154,626	208,451,378	35,345,456	47,268,477
Licence expense.....	\$	14,313,539	16,489,501	3,136,874	3,665,977
Administration and general.....	\$	101,598,293	118,499,704	12,728,519	16,181,882
Net Operating Revenues.....	\$	27,211,368	29,547,492	8,007,496	10,290,758
Fuel Consumed—					
Gasoline.....	'000 gal.	90,403	96,217	25,116	28,584
Diesel oil.....	"	42,008	52,278	9,049	12,927
Liquefied petroleum gases.....	"	—	134	27	104
Employees—					
Average employed during year.....	No.	32,337	35,262	5,741	6,761
Total salaries and wages.....	\$	160,590,674	186,760,947	27,939,965	35,147,810
Working proprietors.....	No.	2,243	1,966	1,107	1,091
Withdrawals of working proprietors.....	\$	7,053,208	6,963,882	4,311,477	5,073,679
Equipment—					
Trucks with gasoline engines.....	No.	12,035	12,977	3,427	3,716
Trucks with diesel engines.....	"	190	362	207	342
Road tractors with gasoline engines.....	"	7,594	8,022	1,578	1,724
Road tractors with diesel engines.....	"	3,841	4,794	832	1,091
Semi-trailers.....	"	18,912	21,505	2,900	3,522
Trailers.....	"	1,244	1,933	577	534

Household Goods Movers and Storage Operators.*—Statistics of household goods movers and storage operators, summarized in Table 10, were first presented separately in 1960; before that date, they were included either with motor carriers—freight or with warehousing, depending upon the predominant source of operating revenues of the companies concerned.

10.—Summary Statistics of Household Goods Movers and Storage Operators, 1961-65

Item	1961	1962	1963	1964	1965
Companies Reporting..... No.	192	193	227	228	222
Investment in Land, Warehouses, Vehicles, etc..... \$	24,506,043	28,861,344	36,529,922	33,828,214	36,677,325
Revenues..... \$	34,315,516	38,482,035	45,860,927	45,565,248	50,829,107
Cartage..... \$	24,329,327	25,980,439	31,052,341	30,532,243	33,405,626
Storage..... \$	4,758,767	5,816,373	6,552,230	5,558,646	6,716,600
Packing..... \$	3,605,636	3,546,449	4,101,846	4,615,712	5,432,317
Other..... \$	1,621,786	3,138,774	4,154,510	4,858,647	5,274,564
Operating Expenses..... \$	33,547,487	36,526,348	44,051,416	43,395,634	47,918,103
Maintenance..... \$	2,426,787	2,835,251	3,224,772	3,206,190	3,412,197
Salaries and wages (charged to operations) \$	10,692,026	10,917,519	13,209,333	13,935,847	16,437,937
Cartage expenses..... \$	2,269,976	2,607,760	3,790,376	3,332,249	3,117,692
Storage expenses..... \$	2,505,279	2,378,406	2,602,250	2,641,829	2,865,304
Other operating expenses..... \$	15,653,419	17,787,412	21,224,685	20,279,519	22,084,973
Net Operating Revenues..... \$	768,029	1,955,687	1,809,511	2,169,614	2,911,004
Employees—					
Average employed during year..... No.	3,906	4,064	4,790	4,450	4,864
Salaries and wages..... \$	14,937,657	16,220,976	19,758,876	19,355,843	21,725,734
Storage Capacity—					
Household goods..... cu. ft.	30,235,601	31,217,234	36,303,850	33,888,412	35,333,750
Other..... "	4,049,382	5,345,366	9,725,781	7,650,548	12,630,680
Vehicles—					
Trucks..... No.	1,437	1,578	1,874	1,718	1,785
Tractors..... "	672	741	824	797	848
Semi-trailers..... "	711	780	803	867	898
Trailers..... "	39	59	169	26	39

Passenger Buses.†—The operations of companies predominantly engaged in passenger bus service are summarized in Table 11. Data refer to the for-hire segment of the industry. Only firms engaged in intercity and rural operations and having an annual gross revenue of \$6,000 or over are covered. Operators predominantly involved in the provision of school bus service are not included nor are airport servicing and urban transit bus operators.

* Statistics are given in more detail in DBS annual report *Moving and Storage, Household Goods* (Catalogue No. 53-221).

† Statistics are given in more detail in DBS annual report *Passenger Bus Statistics* (Catalogue No. 53-215).

11.—Summary Statistics of Intercity and Rural Passenger Bus Companies, 1962-66

NOTE.—Only carriers with an annual gross revenue of \$6,000 or over are included.

Item		1962	1963	1964	1965	1966
Carriers Reporting.....	No.	159	166	165	162	153
Property Account—Fixed Assets.....	\$	79,436,779	76,252,295	75,007,987	73,864,251	78,653,611
Revenues.....	\$	57,057,805	61,236,860	63,170,601	68,841,256	80,429,354
Regular Passenger Service—						
Intercity and rural.....	\$	45,051,213	47,960,347	47,945,483	52,304,349	60,769,147
Urban and suburban.....	\$	686,019	879,221	752,507	891,364	1,063,730
Chartered service.....	\$	6,125,050	6,597,127	7,498,220	8,068,519	10,101,725
Other transportation revenue.....	\$	5,195,523	5,800,165	6,974,391	7,577,024	8,494,752
Operating Expenses.....	\$	51,845,161	55,725,517	57,782,444	61,737,884	70,170,546
Maintenance.....	\$	10,927,855	11,212,351	11,270,499	11,573,622	12,287,006
Wages and bonuses of drivers and helpers.....	\$	13,388,754	14,624,686	14,875,560	16,343,963	19,522,951
Other transportation expenses.....	\$	10,677,733	11,675,266	11,512,062	12,851,723	14,728,273
Operating taxes and licences.....	\$	4,237,632	4,496,626	4,658,792	4,573,880	5,254,826
Other operating expenses.....	\$	12,613,187	13,716,588	15,465,531	16,294,696	18,377,490
Net Operating Revenues.....	\$	5,212,644	5,511,343	5,388,157	7,103,372	10,258,808
Traffic and Employees—						
Passengers—						
Regular Routes—						
Intercity and rural.....	No.	50,591,146	48,638,373	46,646,418	45,606,246	49,840,586
Urban and suburban.....	"	4,756,342	5,019,002	4,571,884	4,670,831	4,759,006
Special and chartered service.....	"	5,347,173	6,382,415	6,121,076	6,504,753	9,053,905
Bus Miles—						
Regular Routes—						
Intercity and rural.....	No.	90,753,096	93,443,880	94,124,250	90,704,870	107,560,495
Urban and suburban.....	"	1,664,367	1,881,933	1,712,294	2,062,317	2,783,341
Special and chartered service.....	"	10,049,231	11,385,333	12,009,902	12,203,870	14,749,766
Gasoline consumed.....	gal.	4,501,251	4,134,529	3,703,651	3,677,222	3,551,898
Diesel oil consumed.....	"	9,908,848	10,328,872	9,312,916	11,040,793	13,204,813
Employees—						
Average employed during year.....	No.	4,662	4,724	4,650	4,738	5,193
Total salaries and wages.....	\$	22,197,171	23,736,153	23,984,134	25,854,643	30,512,886
Working proprietors.....	No.	58	59	48	53	46
Withdrawals of working proprietors.....	\$	150,308	140,663	117,859	152,718	197,050
Equipment—						
Buses.....	No.	2,393	2,457	2,513	2,622	2,746
Gasoline.....	"	1,191	1,144	1,089	1,086	1,100
Diesel.....	"	1,802	1,313	1,424	1,696	1,646

Urban Transit Systems.—The collection of statistical information on urban transit systems has been extensively reorganized in recent years because of major changes made in the types of vehicles used for mass passenger movement in urban centres. The current series, which was started in 1956, includes operations of motor buses, trolley coaches, streetcars and subway cars carrying passengers in urban and suburban service.

12.—Summary Statistics of Urban Transit Systems, 1962-66

Item		1962	1963	1964	1965	1966
Passenger Fares¹.....	No.	995,169,878	988,147,635	994,239,184	985,164,840	1,036,423,24
Motor bus.....	"	643,307,389	665,481,904	690,881,295	678,017,653	706,647,28
Trolley coach.....	"	172,487,505	149,996,752	133,197,665	130,414,263	116,005,60
Streetcar.....	"	136,550,346	125,937,437	122,023,961	124,787,132	96,826,09
Subway car.....	"	32,874,696	36,491,918	38,055,729	41,373,620	104,754,42
Chartered.....	"	9,949,942	9,168,657	9,662,154	10,332,687	9,852,17
Intercity and rural services (all types of vehicles).....	"	2	1,070,970	418,380	239,485	2,337,67
Vehicle-Miles Run.....	No.	202,445,806	208,121,107	212,804,909	213,779,503	240,317,6
Motor bus.....	"	138,252,679	142,779,355	150,113,461	152,806,059	166,857,1
Trolley coach.....	"	32,862,744	32,390,625	28,748,408	27,654,912	24,515,3
Streetcar.....	"	21,240,370	20,302,402	20,118,497	19,912,282	14,612,8
Subway car.....	"	6,951,856	8,967,566	9,474,168	9,644,797	30,309,2
Chartered.....	"	3,138,157	2,935,243	3,628,719	3,495,176	3,502,8
Intercity and rural services (all types of vehicles).....	"	2	745,916	721,656	266,277	490,2

For footnotes, see end of table.

12.—Summary Statistics of Urban Transit Systems, 1962-66—concluded

Item		1962	1963	1964	1965	1966
Fuel Consumed—						
Diesel oil.....	gal.	18,385,972	19,820,960	20,713,770	23,149,602	26,217,292
Gasoline.....	"	9,096,746	9,388,808	8,874,984	7,565,509	6,544,005
Liquid petroleum gases.....	"	188,000	313,302	277,333	256,069	246,863
Passenger Vehicles in Service... No.						
Motor bus.....	"	7,386	7,509	7,641	7,939	8,483
Trolley coach.....	"	5,267	5,432	5,609	5,774	6,103
Streetcar.....	"	1,170	1,167	1,122	1,096	989
Subway car.....	"	791	740	740	735	688
	"	153	170	170	334	703
Finances—						
Total assets.....	\$	292,158,071 ¹	298,479,381 ²	262,078,164 ³	288,415,768 ³	318,872,629 ³
Long-term debt.....	\$	179,674,576 ³	188,892,505 ³	145,993,895 ³	161,536,125 ³	177,127,897 ³
Capital stock and surplus.....	\$	74,991,464 ³	75,679,476 ³	80,824,236 ³	82,276,931 ³	87,980,805 ³
Operating revenues.....	\$	141,608,500	142,451,123	151,851,962	164,054,532	182,551,307
Operating expenses.....	\$	141,620,749	146,280,067	151,389,907	166,745,551	186,873,252
Ratio of expenses to revenues.....	p.c.	100.01	102.70	99.70	98.38	97.68
Employees.....	No.	18,157	18,182	17,961	18,645	19,694
Salaries and wages.....	\$	88,145,609	90,839,804	95,759,397	106,345,817	121,270,890

¹ Initial revenue passenger fares, excluding transfers.
Columbia Hydro and Power Authority.

² Included in other items.

³ Excludes British

There are two subway systems in operation in Canada; the Toronto subway was officially opened on Mar. 30, 1954 and the Montreal subway went into public use on Oct. 17, 1966.

Motor Vehicle Traffic Accidents.—There were 426,105 motor vehicle traffic accidents reported in 1966 compared with 398,127 in the previous year. Deaths from such accidents continue their upward trend, numbering 4,902 in 1965 and 5,281 in 1966 as against 3,184 in 1956. Statistics for 1966, reported by place of occurrence, are given by province in Table 13 but it should be noted that, although motorists are required by law to report accidents, complete statistics of these accidents are not available for all provinces. According to DBS vital statistics data, reported on a different basis, there were 5,320 deaths from motor vehicle traffic accidents in 1966.

13.—Motor Vehicle Traffic Accidents, by Province, 1966

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T. and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Accidents Reported												
Fatal.....	7,266	1,590	12,463	10,133	135,143	139,781	17,380	21,664	35,842	44,187	656	426,105
Non-fatal.....	78	26	201	210	1,466	1,347	159	216	291	445	7	4,446
Property damage ¹	1,673	403	2,457	2,746	27,631	44,246	5,434	4,338	5,764	12,690	181	107,563
	5,515	1,161	9,805	7,177	106,046	94,188	11,787	17,110	29,787	31,052	468	314,096
Persons Killed												
Drivers.....	93	33	229	231	1,727	1,596	207	279	359	529	7	5,281
Passengers.....	27	17	85	78	593	615	71	122	179	200	1	1,988
Pedestrians.....	27	10	68	66	498	505	87	114	119	173	4	1,671
Bicyclists.....	36	4	67	70	529	380	37	32	43	118	2	1,318
Motorcyclists and passengers.....	1	2	4	10	75	39	3	2	2	9	—	147
Others.....	2	—	5	6	32	47	6	5	7	18	—	128
	—	—	—	1	—	10	3	4	9	2	—	29
Persons Injured												
Drivers.....	2,398	609	3,432	4,259	41,223	65,210	8,049	7,150	9,120	19,450	297	161,197
Passengers.....	876	277	1,204	1,671	11,499	27,446	3,595	2,960	3,583	7,949	121	60,681
Pedestrians.....	991	262	1,338	1,836	18,293	26,110	3,395	3,457	4,135	9,005	147	68,969
Bicyclists.....	627	57	669	497	8,398	7,092	588	407	831	1,453	12	20,631
Motorcyclists and passengers.....	39	12	97	113	1,853	1,539	145	101	171	365	1	4,436
Others.....	46	1	109	112	1,180	2,923	299	203	299	661	16	5,849
	19	—	15	30	—	100	27	22	101	17	—	331
Total Property Damage..... \$'000												
	3,553	745	6,206	5,420	..	72,953	8,066	11,755	17,508	26,196	590	152,992 ²

¹ All reported accidents are those resulting in property damage estimated at \$100 or over.
Quebec.

² Excludes

PART IV.—WATER TRANSPORT*

The Canada Shipping Act.—Legislation regarding shipping is consolidated in the Canada Shipping Act (RSC 1952, c. 29). Under the Act and its amendments the Parliament of Canada accepts full responsibility for the regulation of Canadian shipping.

Section 1.—Shipping Facilities and Traffic

Subsection 1.—Shipping

All Canadian waterways including canals, lakes and rivers are open on equal terms, except in the case of the coasting trade, to the shipping of all countries of the world so that Canadian shipping must compete with foreign flag shipping.

Within the region from approximately Havre St. Pierre on the St. Lawrence River upstream to the head of the Great Lakes, the carriage of goods or passengers from one Canadian port to another Canadian port, commonly known as the coasting trade, is restricted to ships registered in Canada. Elsewhere in Canada, the coasting trade is open to all Commonwealth ships.

Canadian Registry.—Under Part I of the Canada Shipping Act, ships in excess of 15 tons net register and pleasure yachts in excess of 20 tons net are required to be registered; ships of lower tonnage may be registered voluntarily, otherwise they are required to be operated under a Vessel Licence if powered by a motor of 10 hp. or more. Sect. 6 of the Act restricts ownership to British subjects or bodies corporate incorporated under the law of a country of the Commonwealth or of the Republic of Ireland and having their principal place of business in those countries. Under the British Commonwealth Merchant Shipping Agreement, all Commonwealth ships are given the general designation 'British Ship', and a ship that should be but is not registered is not entitled to the privileges accorded to British ships. Ships in the planning stage or in course of construction may be recorded before registry by a Registrar of Shipping at one of the 75 Ports of Registry in Canada.

* Information and statistics dealing with this subject have been supplied as follows: aids to navigation, canals, harbours, administrative services, and marine services by the Department of Transport and the National Harbour Board; the St. Lawrence Seaway by the St. Lawrence Seaway Authority; part of the financial statistics by the Department of Public Works; shipping subsidies by the Director of Subsidized Steamship Services, Water Transport Committee, Canadian Transport Commission; and canal traffic and statistics of shipping by the Transportation and Public Utilities Division, Dominion Bureau of Statistics.

1.—Vessels on the Canadian Shipping Registry, by Province, as at Dec. 31, 1964-66

NOTE.—Figures from 1935 are given in the corresponding table of previous Year Books beginning with the 1944 edition.

Province or Territory	1964		1965		1966	
	Ships	Gross Tonnage	Ships	Gross Tonnage	Ships	Gross Tonnage
	No.	No.	No.	No.	No.	No.
Newfoundland.....	849	88,735	884	103,308	947	125,241
Prince Edward Island.....	819	20,922	922	21,515	1,046	24,193
Nova Scotia.....	6,943	166,439	7,259	176,273	7,432	193,348
New Brunswick.....	2,325	116,092	2,480	122,125	2,604	143,848
Quebec.....	2,912	919,936	2,999	1,013,820	3,099	1,072,448
Ontario.....	2,465	914,475	2,485	1,009,927	2,549	1,115,648
Manitoba.....	119	19,657	114	19,085	110	19,548
Saskatchewan.....	1	108	1	108	1	108
Alberta.....	12	686	12	686	12	686
British Columbia.....	7,266	709,662	7,569	798,994	7,929	854,248
Yukon Territory.....	6	1,435	6	1,435	6	1,435
Totals.....	23,718	2,958,147	24,731	3,267,276	25,735	3,550,748

Shipping Traffic.—Table 2 shows the number and tonnage of all vessels (except those of less than 15 registered net tons, naval vessels and, for 1962-66, fishing vessels) entering Canadian customs and non-customs ports. Previous to 1957, only the international and coastwise movements of cargo in and out of customs ports were recorded.

2.—Vessels Entered at Canadian Ports, 1957-66

Year	In International Seaborne Shipping		In Coastwise Shipping		Totals	
	Vessels	Registered Net Tons	Vessels	Registered Net Tons	Vessels	Registered Net Tons
	No.	No.	No.	No.	No.	No.
1957.....	35,352	66,149,552	104,079	76,535,160	139,431	142,684,712
1958.....	30,710	57,738,034	100,234	76,197,625	130,944	133,935,659
1959.....	33,251	67,526,464	110,702	85,536,408	143,953	153,062,872
1960.....	33,397	74,805,002	120,125	88,493,116	153,522	163,298,118
1961.....	31,832	77,140,524	115,339	91,157,708	147,171	168,298,232
1962.....	30,269	81,942,501	112,325	87,767,019	142,594	169,709,519
1963.....	29,169	87,385,239	107,232	87,257,470	136,401	174,642,708
1964.....	29,809	92,799,912	105,186	91,007,726	134,995	183,807,638
1965.....	28,792	98,128,231	99,153	89,363,142	127,945	187,491,373
1966.....	28,871	99,852,760	102,400	96,648,426	131,271	196,501,186

3.—Cargoes Loaded and Unloaded at Principal Canadian Ports from Vessels in International Seaborne and Coastwise Shipping, by Province, 1966 with Totals for 1965

NOTE.—Only ports handling over 300,000 tons are listed.

Province and Port	International		Coastwise		Total 1966	Total 1965
	Loaded	Unloaded	Loaded	Unloaded		
	tons	tons	tons	tons	tons	tons
Newfoundland	2,097,521	1,022,179	1,479,022	2,070,354	6,669,076	6,930,325
Corner Brook.....	431,885	185,045	18,728	439,835	1,075,493	1,070,582
Bell Island.....	564,684	—	499,946	9,659	1,074,289	1,356,569
St. John's.....	8,801	297,469	63,189	528,948	898,407	800,048
Holyrood.....	21,074	382,690	283,434	71	687,269	526,336
Botwood.....	399,383	41,245	80	125,876	566,584	585,152
Port aux Basques.....	262	332	41,470	360,720	402,784	397,602
Stephenville.....	283,422	15,261	86,322	6,511	391,516	338,281
Prince Edward Island	94,416	134,890	137,397	363,747	730,450	593,857
Charlottetown.....	14,642	125,121	113,124	328,017	580,904	487,278
Nova Scotia	6,506,397	5,296,798	4,082,173	1,566,183	17,451,551	16,979,597
Halifax.....	2,846,022	4,227,840	1,950,486	382,721	9,407,069	9,547,796
Sydney.....	125,977	941,635	1,358,586	846,594	3,272,792	2,652,031
Hantsport.....	1,881,000	3	1,717	—	1,882,720	2,025,225
Port Hawkesbury.....	660,821	93,636	22,641	24,627	801,725	753,673
North Sydney.....	11,132	150	398,408	36,154	445,844	404,880
Little Narrows.....	119,830	—	195,655	—	315,485	410,304
New Brunswick	2,560,979	3,165,085	1,089,125	1,016,129	7,831,318	7,838,668
Saint John.....	1,570,814	2,946,613	1,028,058	434,307	5,979,792	5,817,861
Dalhousie.....	707,539	20,611	4,646	—	732,796	704,716
Quebec	42,529,690	15,994,080	10,461,281	18,494,131	87,479,182	83,377,152
Montreal.....	5,547,612	6,475,397	4,603,082	6,209,649	22,835,720	21,911,334
Sept Iles-Pointe Noire.....	17,046,227	462,907	2,175,113	263,531	19,947,778	18,674,547
Port Cartier.....	9,229,223	181,301	70,229	10,589	9,491,342	9,354,170
Baie Comeau.....	3,980,559	1,826,515	277,453	2,391,845	8,426,372	8,435,209
Quebec.....	1,614,115	1,190,994	165,059	3,396,239	6,366,407	6,329,205
Sorel.....	2,161,509	429,336	34,110	2,532,459	5,157,414	4,591,928
Trois-Rivières.....	1,682,654	1,104,260	1,897	1,733,265	4,522,076	4,775,889
Port Alfred.....	450,311	3,047,963	16,802	637,382	4,152,458	3,321,308
Contrecoeur.....	477,223	938,529	137,370	21,635	1,574,757	966,203
Havre St. Pierre.....	—	2,973	999,931	10,659	1,013,563	1,442,589
Forestville.....	—	90	843,229	26,030	869,349	898,954
Chicoutimi.....	822	83,067	2,828	479,527	566,244	512,953
Rimouski.....	40,971	56,417	75,866	347,349	520,603	541,668

3.—Cargoes Loaded and Unloaded at Principal Canadian Ports from Vessels in International Seaborne and Coastwise Shipping, by Province, 1966 with Totals for 1965—concluded

Province and Port	International		Coastwise		Total 1966	Total 1965
	Loaded	Unloaded	Loaded	Unloaded		
	tons	tons	tons	tons		
Ontario	9,008,145	23,732,290	22,520,302	16,089,919	71,350,656	67,101,525
Port Arthur—Fort William	3,430,874	420,302	14,493,010	1,164,577	19,508,763	17,037,685
Hamilton	191,495	7,320,080	503,714	2,703,387	10,718,676	10,293,615
Toronto	223,293	3,159,435	276,594	1,935,356	5,694,678	5,826,100
Sault Ste. Marie	241,464	3,596,630	239,174	960,968	5,038,236	5,403,016
Sarnia	198,860	1,358,906	2,374,345	498,835	4,430,946	4,174,823
Port Colborne	1,467,299	430,378	396,467	1,129,028	3,423,172	2,925,113
Windsor—Walkerville	274,319	1,695,620	558,139	549,039	3,077,117	2,896,075
Port Credit	4,411	2,323,367	223,382	445,954	2,997,114	1,970,287
Clarkson	29,550	104,654	530,654	1,551,847	2,216,705	1,934,028
Pictou	809,175	103,590	272,670	35,009	1,220,444	1,199,404
Port Colborne	—	—	1,161,741	—	1,161,741	1,079,950
Goderich	225,040	21,703	383,775	441,469	1,071,987	1,077,693
Prescott	7,750	303,390	175,218	544,636	1,030,994	1,006,900
Little Current	508,800	405,368	22	36,973	951,163	1,151,399
Kingston	63,762	174,543	136,061	388,232	762,598	675,427
Midland	—	45,690	808	675,950	722,448	724,357
Thorold	132,607	328,638	—	255,679	716,922	674,616
Depot Harbour	697,056	—	7,799	—	704,855	734,370
Parry Sound	3,416	16,106	—	393,367	412,889	421,143
Michipicoten Harbour	251,758	31,410	85,015	42,841	411,024	442,304
Owen Sound	—	34,170	442	359,876	394,498	410,925
Port Stanley	—	144,874	15,885	219,254	380,013	398,184
Oshawa	427	170,790	—	166,519	337,736	302,728
Port Burwell	—	331,362	—	—	331,362	312,399
Belleville	—	126,996	165,346	37,404	329,746	337,182
Manitoba	656,804	17,493	13,472	271	688,040	766,977
Churchill	656,804	17,493	13,472	271	688,040	766,977
British Columbia	20,533,120	3,657,434	20,977,732	21,043,259	66,211,545	58,385,461
Vancouver	10,409,188	1,859,022	5,427,030	3,957,227	21,652,467	20,502,089
New Westminster	1,255,247	224,341	2,414,130	1,557,888	5,451,606	4,858,707
Nanaimo	648,186	95,523	253,304	1,702,162	2,699,175	1,965,010
Victoria	1,123,795	68,053	355,283	901,850	2,448,981	2,404,832
Duncan Bay—Campbell River	461,573	79,265	190,833	1,683,047	2,414,718	2,325,088
Britannia Beach	67,513	—	996,447	899,409	1,963,369	1,580,124
Powell River	360,573	39,085	279,812	1,070,642	1,750,112	1,641,064
Crofton	415,169	47,001	93,695	1,074,921	1,630,786	1,333,179
Port Alberni	817,539	37,047	16,548	746,142	1,617,276	1,250,371
Prince Rupert	646,852	385,280	34,722	446,278	1,513,132	1,310,835
North Arm Fraser River	7,480	—	298,543	1,090,481	1,396,504	1,017,496
Port Mellon	66,607	5,723	62,745	1,152,595	1,287,670	1,120,299
Ocean Falls	80,800	76,588	326,251	664,743	1,148,382	1,391,059
Ladysmith	4,400	—	880,017	52,912	937,329	748,142
Andy's Bay	—	—	136,886	692,154	829,040	281,417
Blubber Bay	713,677	—	59,814	64	773,555	791,221
Kitimat	74,784	517,078	85,964	82,047	759,873	808,235
Teakeme Arm	1,260	—	420,861	270,602	692,723	323,442
Texada	630,666	—	3,036	4,020	637,722	685,573
Chemainus	310,287	12,257	213,906	36,682	573,132	483,685
Blind Bay	—	—	308,729	212,215	520,944	319,936
Jedway	475,830	—	192	6,253	482,280	236,226
Tahsis	309,531	—	87,130	52,254	448,915	371,275
Beaver Cove	—	—	423,926	18,637	442,563	283,355
Bamberton	24,118	31,053	338,101	37,359	430,631	323,861
Sarita River	—	—	399,418	14,099	413,517	187,704
Zeballos	318,535	—	85,788	4,261	408,584	300,411
Vananda	153,290	—	226,891	4,384	384,565	221,355
Quatsino	52,516	102,290	104,285	95,305	354,396	334,871
Squamish	8,074	38,340	215,823	53,145	315,382	212,031
Northwest Territories	—	—	1,090	41,956	43,046	42,051
Totals	83,987,072	53,020,249	60,761,594	60,685,949	258,454,864	242,015,611

The freight movement through a large port takes a number of different forms. These include cargoes for or from foreign countries and cargoes loaded and unloaded in coastwise shipping, i.e., domestic freight moving between Canadian points. There is, as well, the

in-transit movement in vessels that pass through the harbour without loading or unloading and the movement from one point to another within the harbour, which in many ports amounts to a large volume.

Shipping statistics, which cover traffic in and out of both customs and non-customs ports, do not include freight in transit or freight moved from one point to another within the harbour. Table 4 shows the principal commodities loaded and unloaded in foreign and coastwise shipping at the 13 ports handling the largest cargo volumes in 1966. These ports handled 65.7 p.c. of all Canada's international shipping and 45.3 of the coastwise trade. The specific commodities shown are those transported in volume and often in bulk form.

4.—Principal Commodities in Water-Borne Cargo Loaded and Unloaded at Ports Handling the Largest Tonnages in 1966

NOTE.—Only commodities totalling over 50,000 tons are listed.

Port and Commodity	International		Coastwise		Total
	Loaded	Unloaded	Loaded	Unloaded	
	tons	tons	tons	tons	tons
Montreal	5,547,612	6,475,397	4,603,062	6,209,649	22,835,720
Wheat.....	3,407,739	79,094	6,422	4,208,676	7,701,931
Fuel oil.....	62,296	2,198,631	2,408,430	55,483	4,724,840
Gasoline.....	—	268,645	1,152,253	4,400	1,425,298
Crude petroleum.....	—	811,225	11,995	—	823,220
Coal, bituminous.....	30	395,039	35	171,881	566,985
Barley.....	141,709	24,582	—	307,064	473,355
Corn.....	98,714	359,691	—	—	458,405
Plate and sheet steel.....	62,301	123,408	18,825	203,819	408,353
Raw sugar.....	320	334,231	10	—	334,561
Salt.....	232	54,622	150	267,828	322,832
Lubricating oil and grease.....	890	68,600	199,903	23,957	293,350
Gypsum.....	—	10	—	251,851	251,861
Wheat flour.....	235,585	1,116	3,728	1,572	242,001
Cement.....	49,252	10,379	166,950	1,900	228,481
Soybeans.....	80,654	82,446	—	48,470	211,570
Bars and rods, steel.....	3,416	169,748	15,202	17,188	205,554
Asbestos.....	172,326	5,799	1,768	2,471	182,364
Structural shapes.....	9,628	116,377	43,740	4,479	174,224
Flaxseed.....	38,530	—	—	115,083	153,613
Miscellaneous food preparations, <i>n.e.s.</i>	19,746	11,931	47,556	51,839	130,072
Oats.....	11,278	—	—	115,900	127,178
Molasses, crude.....	—	110,844	—	—	110,844
Rye.....	19,973	11,340	—	58,500	89,813
Organic chemicals, <i>n.e.s.</i>	23,858	46,912	5,012	9,078	84,860
Machinery, <i>n.e.s.</i>	12,147	42,277	25,215	2,191	81,820
Copper and alloys.....	63,403	526	153	6,218	70,300
Crude non-metallic minerals, <i>n.e.s.</i>	49,078	17,065	10	—	66,153
Petroleum coal products, <i>n.e.s.</i>	9,664	2,644	12,948	36,905	62,161
Nickel-copper ore.....	58,895	1,148	—	—	60,043
Personal and household goods.....	4,493	32,532	13,127	6,763	56,915
Ferro-alloys.....	16,946	32,435	4,500	320	54,201
Malt and malt flour.....	10,768	10	—	42,382	53,160
Other commodities not listed.....	884,741	1,062,090	465,130	193,431	2,605,392
Vancouver	10,409,188	1,859,022	5,427,030	3,957,227	21,652,467
Wheat.....	4,246,672	—	8,745	40	4,255,457
Pulpwood.....	253,807	—	2,385,045	222,670	2,861,522
Sand and gravel.....	1,500	314,978	13,261	1,695,927	2,025,666
Lumber and timber.....	1,155,753	14,797	54,320	141,578	1,366,448
Logs.....	176,653	42,598	169,089	935,574	1,323,914
Fuel oil.....	63,763	202,578	1,007,034	106	1,273,481
Fertilizers.....	1,100,011	5,651	4,123	1	1,109,786
Hogged fuel.....	157,600	3,120	817,021	6,300	984,041
Coal, bituminous.....	817,355	—	169	—	817,524
Sulphur in ores.....	513,690	—	31,850	—	545,540
Gasoline.....	44,959	15,023	379,584	8	439,584
Newsprint.....	19,969	25	1,716	365,681	387,391
Pulp.....	152,329	402	1,480	193,083	247,294
Barley.....	341,916	26	7	—	341,949
Rapeseed.....	237,294	—	—	—	237,294
Salt.....	—	210,469	26,487	10	236,966
Cement.....	35,653	5,151	7,688	143,933	192,425

4.—Principal Commodities in Water-Borne Cargo Loaded and Unloaded at Ports Handling the Largest Tonnages in 1966—continued

Port and Commodity	International		Coastwise		Total
	Loaded	Unloaded	Loaded	Unloaded	
	tons	tons	tons	tons	
Vancouver—concluded					
Phosphate rock.....	—	153,784	—	—	153,784
Inorganic chemicals.....	2,630	2,466	138,899	485	144,480
Flaxseed.....	139,457	—	—	—	139,457
Asbestos.....	56,494	81,870	17	—	138,381
Copper ore and concentrates.....	123,567	—	—	2,326	125,893
Oats.....	123,609	—	—	—	123,609
Raw sugar.....	—	—	—	110,807	110,807
Wheat flour.....	102,478	—	—	—	102,478
Rye.....	93,958	—	—	—	93,958
Concentrated complete feeds.....	92,749	165	15	—	92,933
Plate and sheet steel.....	57	86,506	3,731	84	90,378
Structural shapes.....	8,257	59,986	17,250	799	86,292
Organic chemicals.....	4,983	4,685	72,998	120	82,786
Miscellaneous food preparations, <i>n.e.s.</i>	12,671	18,687	41,435	222	73,015
Limestone.....	4,107	—	50	63,364	67,521
Machinery, <i>n.e.s.</i>	2,645	17,829	35,091	10,653	66,218
Bars and rods, steel.....	139	53,887	1,808	—	55,834
Veneer and plywood.....	28,273	22,507	1,807	5	52,592
Other commodities not listed.....	294,190	541,822	206,310	63,447	1,105,769
Port Arthur-Fort William.....	3,430,874	423,002	14,493,010	1,164,577	19,511,463
Wheat.....	166,990	—	11,705,402	—	11,872,392
Iron ore and concentrates.....	2,036,007	—	654,841	—	2,690,848
Barley.....	199,408	—	867,864	—	1,067,272
Oats.....	42,771	—	523,175	—	565,946
Flaxseed.....	229,563	—	168,834	—	398,397
Coal, bituminous.....	—	323,523	—	—	323,523
Pulpwood.....	86,740	—	10,500	207,000	304,240
Fuel oil.....	—	—	6,310	272,953	279,263
Rye.....	122,454	—	115,808	—	238,262
Newsprint.....	218,757	13	1,091	—	219,861
Wheat flour.....	23,993	—	127,535	50	151,578
Gasoline.....	—	3,000	—	140,883	143,883
Plate and sheet steel.....	—	1,797	32	126,110	127,939
Malt and malt flour.....	27,854	—	87,586	—	115,440
Hulls, screenings and chaff.....	13,885	—	101,502	—	115,387
Fertilizers.....	102,834	—	—	62	102,896
Concentrated and complete feeds.....	84,455	—	896	—	85,351
Salt.....	11,303	—	—	64,433	64,433
Ground cereals, <i>n.e.s.</i>	63,860	—	48,673	—	59,976
Other commodities not listed.....	—	94,669	72,961	353,086	584,576
Sept Îles.....	14,538,883	403,669	292,239	212,998	15,447,789
Iron ore and concentrates.....	14,534,047	—	276,472	—	14,810,519
Fuel oil.....	—	349,356	2,776	19,011	371,143
Bentonite.....	—	51,730	—	—	51,730
Other commodities not listed.....	4,836	2,583	12,991	193,987	214,397
Hamilton.....	191,495	7,326,080	503,714	2,703,357	10,718,676
Iron ore and concentrates.....	9,168	3,474,661	—	2,012,221	5,496,050
Coal, bituminous.....	—	3,157,117	—	—	3,157,117
Fuel oil.....	—	142,845	2,600	495,687	641,132
Plate and sheet steel.....	42,397	6,543	225,452	711	275,103
Soybeans.....	773	130,199	—	—	130,972
Wheat.....	—	23,916	63,467	40,284	127,667
Other commodities not listed.....	139,157	384,799	212,195	154,484	890,635
Port Cartier.....	9,229,223	181,301	70,229	10,589	9,491,342
Iron ore and concentrates.....	9,222,917	—	45,350	—	9,268,267
Fuel oil.....	—	167,539	24,736	—	192,275
Other commodities not listed.....	6,306	13,762	143	10,589	30,800
Halifax.....	2,846,022	4,237,840	1,950,486	382,721	9,497,069
Crude petroleum.....	—	3,193,418	—	—	3,193,418
Fuel oil.....	22,257	758,454	1,275,345	45,804	2,101,860
Gypsum.....	1,770,955	10	16,972	—	1,787,937
Gasoline.....	1,640	8,848	595,548	91,912	697,945
Wheat.....	439,625	6,966	—	181,462	628,053
Wheat flour.....	156,040	—	3,391	3,384	162,815
Lumber and timber.....	52,389	3,378	1,206	7	56,980
Other commodities not listed.....	403,116	256,769	58,024	60,152	778,061

4.—Principal Commodities in Water-Borne Cargo Loaded and Unloaded at Ports Handling the Largest Tonnages in 1966—concluded

Port and Commodity	International		Coastwise		Total
	Loaded	Unloaded	Loaded	Unloaded	
	tons	tons	tons	tons	tons
Bale Comeau	3,930,559	1,826,515	277,453	2,391,845	8,426,372
Wheat.....	2,466,308	433,705	—	1,958,221	4,858,234
Corn.....	574,097	651,107	—	—	1,225,204
Soybeans.....	230,265	202,441	—	—	432,706
Pulpwood.....	149,464	—	240,200	—	389,664
Newsprint.....	318,412	—	—	—	318,412
Barley.....	103,155	70,196	—	33,322	206,673
Fuel oil.....	—	132,487	—	70,635	203,122
Alumina and bauxite ores.....	—	202,214	—	—	202,214
Cement.....	—	—	460	185,315	185,775
Aluminum.....	52,133	—	23,673	—	75,806
Other commodities not listed.....	36,725	134,365	13,120	144,352	328,562
Quebec	1,614,115	1,190,994	165,059	3,396,239	6,366,407
Fuel oil.....	—	913,236	43,799	545,633	1,502,668
Wheat.....	548,466	—	—	813,710	1,362,176
Pulpwood.....	11,858	—	—	929,112	940,970
Gasoline.....	—	49,414	11,289	549,404	610,107
Newsprint.....	341,058	4	—	—	341,062
Barley.....	40,264	—	1,394	229,459	271,117
Asbestos.....	242,618	—	—	—	242,618
Zinc ore and concentrates.....	202,792	—	—	—	202,792
Coal, bituminous.....	—	10,240	600	133,621	144,461
Oats.....	23	—	2,743	141,208	143,974
Cement.....	65	2,425	75,993	—	78,483
Corn.....	17	66,027	—	1,749	67,793
Pulp.....	64,773	—	124	—	64,897
Other commodities not listed.....	162,181	149,648	29,117	52,343	393,289
Saint John	1,570,814	2,946,613	1,028,058	434,307	5,979,792
Crude petroleum.....	—	2,329,321	—	—	2,329,321
Fuel oil.....	23,402	72,603	648,084	226,236	970,325
Wheat.....	622,485	400	—	—	622,885
Gasoline.....	—	—	332,886	163,189	496,075
Raw sugar.....	—	250,456	—	—	250,456
Wheat flour.....	232,753	133	4,792	828	238,506
Newsprint.....	117,719	670	—	—	118,398
Lumber and timber.....	61,630	1,158	267	55	63,110
Potatoes.....	57,648	—	—	—	57,648
Other commodities not listed.....	455,177	291,863	42,029	43,999	833,068
Toronto	223,293	3,159,435	276,594	1,935,356	5,594,678
Coal, bituminous.....	—	1,770,145	—	611,211	2,381,356
Fuel oil.....	—	224,245	79,985	396,227	700,457
Cement.....	—	—	—	321,554	321,554
Soybeans.....	—	309,328	—	—	309,328
Wheat.....	3,617	—	73,956	205,977	283,550
Salt.....	—	70,988	—	113,730	184,718
Gasoline.....	—	11,023	111,920	12,500	135,443
Raw sugar.....	—	121,650	—	—	121,650
Barley.....	—	—	2,906	95,474	98,380
Soybean oil, meal and cake.....	89,591	—	—	—	89,591
Other commodities not listed.....	130,085	652,056	7,827	178,683	968,651
Sault Ste. Marie	241,464	3,596,630	239,174	960,968	5,038,236
Coal, bituminous.....	—	2,303,619	—	—	2,303,619
Iron ore and concentrates.....	—	783,290	—	524,838	1,308,128
Limestone.....	—	458,950	—	—	458,950
Fuel oil.....	—	26,007	6	285,863	311,876
Plate and sheet steel.....	26,969	10,596	124,076	1,636	163,277
Primary iron and steel, n.e.s.....	120,847	258	26,826	86	148,017
Gasoline.....	—	—	10	85,322	85,332
Pig iron.....	63,347	—	—	1,913	65,260
Other commodities not listed.....	30,301	13,910	88,256	61,310	193,777
Sault Ste. Marie	2,507,344	59,238	1,882,874	50,533	4,499,989
Iron ore and concentrates.....	2,400,904	—	1,882,169	—	4,283,073
Pulp.....	106,440	—	—	—	106,440
Fuel oil.....	—	32,000	—	29,774	61,774
Other commodities not listed.....	—	27,238	705	20,759	48,702

Subsection 2.—Harbours

Water transportation cannot be studied with any degree of completeness without taking into consideration the co-ordination of land and water transportation at many of the ports. Facilities provided to enable interchange movements include the necessary docks and wharves, some for passenger traffic but most of them for freight, warehouses for handling of general cargo, and special equipment for bulk freight of all kinds. Facilities may include cold storage warehouses, harbour railway and switching connections, grain elevators, coal bunkers, oil storage tanks and, in the chief harbours, vessel repair docks.

Nine of the principal harbours of Canada are administered by the National Harbours Board and 11 other major harbours are administered by Harbour Commissioners, which include municipal as well as Federal Government appointees. In addition, there are some 300 public harbours under the direct supervision of the Department of Transport, administered under rules and regulations approved by the Governor General in Council. Harbour masters are appointed by the Minister of Transport for these harbours, their remuneration being paid from fees levied on vessels, under the terms of the Canada Shipping Act.

Throughout the country there are several thousand wharves and breakwaters administered by the Department of Transport under the Government Harbours and Piers Act. These facilities are for the accommodation of cargo ships and commercial fishing craft and are under the general supervision of the Department of Transport District Marine Agents. Wharfingers, whose remuneration is determined as a percentage of wharfage fees collected, are appointed for the direct supervision of these public wharves and floats. They are designed to accommodate the smallest fishing or pleasure craft or the largest ocean-going vessels, according to local requirements. At many ports, in addition to public harbour works operated by the administering authority, there are extensive dock and handling facilities owned by private companies including railway lumber, pulp and paper, coal, steel, iron ore, petroleum, grain, fish and other industries moving large volumes of bulk materials.

In 1966, the harbours of Canada handled more than 258,000,000 tons of cargo in 263,000 vessel arrivals and departures in international seaborne and coastwise shipping.

National Harbours Board.—The National Harbours Board, a Crown corporation established in 1936, is charged with the administration and operation of the following properties: port facilities such as wharves and piers, transit sheds, grain elevators, cold storage warehouses, terminal railways, etc., at the harbours of St. John's, Halifax, Saint John, Chicoutimi, Quebec, Trois-Rivières, Montreal, Vancouver and Churchill; grain elevators at Prescott and Port Colborne; and the Jacques Cartier and Champlain Bridge at Montreal. Facilities at the larger harbours are listed in Table 5, and summary traffic statistics for 1965 and 1966 in Table 6. Operating revenues and expenditures are given in Table 20, p. 841.

5.—Facilities of the Larger Harbours Administered by the National Harbours Board as at Dec. 31, 1966

NOTE.—The facilities at these ports include those under the control of other agencies as well as those of the National Harbours Board.

Item	Halifax	Saint John	Quebec	Trois-Rivières	Montreal	Vancouver
Minimum depth of approach channel..... ft.	70	30	30	35	35	
Harbour railway..... miles	104	64	26	5	61	
Piers, wharves, jetties, etc. No.	88	34	44	18	135	
Length of berthing..... ft.	35,445	24,931	36,300	9,138	74,000	40,000
Transit-shed floor space.....sq. ft.	1,451,902	938,000	739,000	482,365	3,725,000	1,552,000
Cold storage warehouse capacity.....cu. ft.	1,719,000	900,000	500,000	—	2,900,000	3,633,000

**5.—Facilities of the Larger Harbours Administered by the National Harbours Board,
as at Dec. 31, 1966—concluded**

Item	Halifax	Saint John	Quebec	Trois-Rivières	Montreal	Vancouver
Grain Elevators—						
Capacity..... bu.	5,152,500	3,000,000	8,000,000	9,300,000	22,262,000	21,775,500
Loading rate..... bu. per hr.	102,000	150,000	60,000	55,000	728,000	280,000
Floating crane capacity... tons	80	65	—	—	365 ¹	75
Coal dock storage capacity “	—	—	250,000	400,000	175,000	110,000
Oil tank storage capacity.. gal.	271,280,000	41,346,500	166,100,000	44,634,550	1,279,000,000	320,636,236

¹ Includes a St. Lawrence Seaway crane of 275-ton capacity.

6.—Summary Traffic Statistics for Harbours Administered by the National Harbours Board, 1965 and 1966

Port or Elevator		Vessel Arrivals	Vessel Tonnage	Cargo Tonnage	Grain Elevator Deliveries
		No.	No.	No.	bu.
St. John's, Nfld.....	1965	1,768 ^r	1,360,000 ^r	466,293	—
	1966	1,927	1,707,555	669,164	—
Halifax.....	1965	3,372	6,989,871	9,952,713	22,429,328
	1966	3,321	7,032,776	9,652,985	18,853,696
Saint John.....	1965	1,792	4,044,562	6,115,008	24,337,092
	1966	1,856	4,432,997	6,468,603	22,262,951
Miramichi.....	1965	155	280,020	518,660	...
	1966	168	263,991	554,526	...
Quebec.....	1965	3,151	7,872,000	6,646,453	49,272,586
	1966	2,818	6,834,000	6,494,192	47,330,573
Trois-Rivières.....	1965	2,061	3,937,558	5,222,689	59,958,980
	1966	1,876	3,716,577	5,079,615	48,719,080
Montreal.....	1965	6,318	21,646,140	23,445,236	142,642,311
	1966	6,216	23,112,561	24,872,222	186,126,696
Scott's Bluff.....	1965	...	...	...	20,317,332
	1966	...	...	...	18,674,620
Port Colborne.....	1965	...	...	...	10,104,816
	1966	...	...	...	12,650,061
Windsor.....	1965	98	318,295	780,248	25,002,972
	1966	71	287,747	693,413	22,192,476
Vancouver.....	1965	21,746	19,220,510	20,166,534	169,205,721
	1966	20,951	19,400,691	21,703,131	203,499,755
Totals.....	1965	40,461^r	65,668,956^r	73,313,834	523,271,138
	1966	39,204	66,788,895	76,187,851	580,309,908

Subsection 3.—Canals

The canals and canalized waters of Canada under the jurisdiction of the Department of Transport, together with those under the jurisdiction of the St. Lawrence Seaway Authority, comprise a series of waterways providing navigation for 1,875 miles inland from salt water.

Those included under the two classifications—Seaway canals and Department of Transport canals—are listed in Table 7 with their locations, lengths and lock complement. In addition to these, the federal Department of Public Works administers the St. Andrew's

Lock (length, width and draught, respectively, 215, 45 and 17 feet) on the Red River at Selkirk, Man., and the lock at Poupore, Que. A few small locks are operated by provincial authorities.

During 1966, 110,702,534 tons of freight and 23,466 vessels passed through the canal as compared with 99,395,117 tons of freight and 23,356 vessels during 1965. In addition to freight and passenger vessels, thousands of pleasure craft are locked through the canals. Vessels locking at Sault Ste. Marie during 1966 carried 178,486 passengers as compared with 157,813 in 1965.

7.—Lengths of Channels and Dimensions of Locks under the Control of the St. Lawrence Seaway Authority or the Department of Transport

Name	Location	Length of Channel	Locks			
			No.	Minimum Dimensions		
				Length	Width	Depth
		miles		ft.	ft.	ft.
Seaway Canals¹						
Main Route—						
South Shore.....	Montreal to Caughnawaga.....	20	2	766	80	30
Beauharnois.....	Melocheville to Lake St. Francis.....	15	2	766	80	30
Iroquois.....	Iroquois Point.....	1	1	766	80	30
Welland.....	Port Weller, Lake Ontario, to Port Colborne, Lake Erie.....	27.60	8	859	80	30
Non-toll—						
Lachine (not through canal).....	Montreal to Lachine.....	7.5	2	270	45	14
Cornwall (not through canal).....	Cornwall to closure dyke.....	3.50	4	270	43.67	14
Sault Ste. Marie.....	St. Mary's Rapids, Sault Ste. Marie.....	1.38	1	900	60	18.5
Department of Transport Canals						
Atlantic Area—						
Canso Canal.....	Canso Causeway, N.S.....	0.78	1	820	80	32
St. Peter's.....	St. Peter's Bay to Bras d'Or Lakes, Cape Breton, N.S.....	0.50	1	300	47.4	17
Richelieu River—						
St. Ours.....	St. Ours, Que.....	0.12	1	339	45	12
Chambly.....	Chambly to St. Jean, Que.....	11.76	9	125.1	23.3	6
Ottawa and Rideau Rivers—						
Ste. Anne.....	Junction of St. Lawrence and Ottawa Rivers.....	0.62	1	200	45	9
Carillon.....	Carillon Rapids, Ottawa River.....	0.50	1	200	45	9
Rideau.....	Ottawa to Kingston.....	123.53	47	134	33	5
	Rideau Lake to Perth (Tay Branch)...	6.12	2	134	33	5
Lake Ontario to Georgian Bay—						
Trent.....	Trenton to Peterborough lock, Peterborough.....	88.74	18	175	33	8
	Peterborough lock to Big Chute.....	143.71	23	134	33	6
	Big Chute Marine Railway.....	—	—	—	—	4
	Big Chute to Port Severn.....	8.11	1	100	25	6
	Sturgeon Lake to Lindsay (Scugog Branch).....	10.00	1	142	33	6
	Lindsay to Port Perry (Scugog Branch).....	25.00	—	—	—	4
Murray.....	Isthmus of Murray, Bay of Quinte.....	7.53	—	—	—	8

¹ Minimum depth of Seaway canals is 27 feet and minimum width 200 feet. Wiley-Dondero canal and two near Massena, N.Y., are in United States territory; dimensions are approximately the same as those of Canadian facilities. ² Notice must be given by vessels of more than six-foot draught. ³ With Lake Ontario elevation of 243 feet.

Traffic through Canadian Canals, by Registry of Vessel, Navigation Seasons 1957-66

NOTE.—Figures include duplications where vessels pass through two or more canals.

Navigation Season	Canadian		United States		United Kingdom		Other	
	Vessels	Registered Tonnage	Vessels	Registered Tonnage	Vessels	Registered Tonnage	Vessels	Registered Tonnage
	No.	No.	No.	No.	No.	No.	No.	No.
57.....	24,191	27,726,358	3,324	3,802,909	332	221,254	1,589	1,364,205
58.....	21,763	26,635,559	3,216	3,029,624	302	198,926	2,170	1,793,309
59.....	21,363	28,706,462	4,819	4,233,936	1,125	3,130,140	3,252	7,321,449
60.....	19,816	28,963,294	5,046	3,660,931	1,303	3,971,587	3,464	9,455,739
61.....	17,332	32,531,256	3,307	2,515,262	1,845	6,294,753	3,496	10,065,901
62.....	13,836	31,677,612	3,524	4,045,470	1,938	6,769,909	3,538	11,017,809
63.....	13,821	38,040,238	3,106	4,016,111	1,637	6,932,454	3,247	10,248,060
64.....	14,256	40,025,355	2,906	5,461,310	2,043	9,494,484	3,950	13,176,847
65.....	12,959	42,704,703	2,827	3,966,615	2,399	10,852,520	5,171	14,963,462
66.....	15,151	53,019,538	2,553	3,971,446	1,470	6,270,454	4,292	16,875,582

9.—Freight Traffic through Canadian Canals, by Origin of Cargo, Navigation Seasons 1957-66

NOTE.—Figures include duplications where cargoes pass through two or more canals.

Navigation Season	Canada		United States		Britain		Other		Total
	Tons	P.C. of Total	Tons	P.C. of Total	Tons	P.C. of Total	Tons	P.C. of Total	Tons
7.....	21,459,552	57.6	15,021,930	40.3	151,550	0.4	597,317	1.6	37,230,349
8.....	21,832,526	62.2	12,177,376	34.7	223,059	0.6	863,626	2.5	35,096,587
9.....	30,829,746	60.4	17,134,694	33.5	326,992	0.6	2,784,700	5.5	51,076,132
10.....	28,886,228	54.6	20,993,117	39.6	332,794	0.6	2,734,744	5.2	52,946,883
11.....	31,487,898	55.1	23,175,964	40.5	315,991	0.5	2,242,843	3.9	57,222,696
12.....	33,972,361	53.4	26,228,794	41.3	805,831	1.3	2,561,305	4.0	63,568,291
13.....	41,976,843	56.3	28,431,960	38.1	1,054,929	1.4	3,121,695	4.2	74,585,427
14.....	56,298,982	60.3	31,488,638	33.8	1,089,385	1.2	4,399,845	4.7	93,276,850
15.....	56,008,416	56.3	33,747,380	34.0	2,088,813	2.1	7,550,508	7.6	99,395,117
16.....	66,478,706	60.1	34,146,570	30.8	1,256,946	1.1	8,820,312	8.0	110,702,534

10.—Tonnage of Products Carried by Canal, classified by Commodity Section,¹ Navigation Seasons 1965 and 1966

NOTE.—Figures include duplications where cargoes pass through two or more canals.

Year and Canal	Food, Feed, Beverages and Tobacco	Crude Materials, Inedible	Fabricated Materials, Inedible	End Products, Inedible	Miscel- laneous Freight	Domestic Package Freight	Total
	tons	tons	tons	tons	tons	tons	tons
1965							
Sault Ste. Marie.....	284,419	198,784	492,941	719	26,814	403,232	1,406,908
Welland.....	17,206,075	28,494,441	6,889,171	271,440	69,379	506,090	53,436,596
St. Lawrence River....	16,963,752	17,378,975	7,947,911	353,093	126,090	608,842	43,378,663
Richelieu River.....	—	—	87,259	482	—	—	87,741
St. Peter's.....	524	12	—	15	—	—	551
Murray.....	—	—	—	—	—	—	—
Ottawa River.....	—	—	—	615	—	—	615
Rideau.....	—	—	—	—	—	—	—
Trent.....	—	—	13	—	—	—	13
St. Andrew's.....	792	106	501	155	70	—	1,624
Canso.....	191,265	222,161	644,399	13	24,567	—	1,082,401
Totals, 1965.....	34,646,827	46,294,479	16,062,195	626,532	246,920	1,518,164	99,395,111
1966							
Sault Ste. Marie.....	172,521	226,876	493,965	1,149	2,903	382,302	1,279,710
Welland.....	19,931,384	31,030,989	7,052,762	596,673	86,067	439,440	59,137,311
St. Lawrence River....	19,113,305	20,402,951	8,361,634	437,716	186,525	592,136	49,094,266
Richelieu River.....	—	—	27,924	725	—	—	28,649
St. Peter's.....	252	—	325	—	25	—	602
Murray.....	—	—	—	—	—	—	—
Ottawa River.....	—	2	482	5	—	—	487
Rideau.....	—	—	434	—	—	—	434
Trent.....	—	—	106	—	—	—	106
St. Andrew's.....	767	—	643	171	50	—	1,631
Canso.....	218,955	176,190	734,023	58	30,099	—	1,159,323
Totals, 1966.....	39,437,184	51,837,008	16,672,298	1,036,497	305,669	1,413,878	110,702,533

¹ Standard commodity classification.

11.—Freight Traffic through Canadian Canals, by Direction and Origin, Navigation Season 1966

NOTE.—Figures include duplications where cargoes pass through two or more canals.

Canal	Traffic by Direction		Origins of Cargo			Total Cargo
	Up	Down	Canada	United States	Other Countries	
	tons	tons	tons	tons	tons	tons
Sault Ste. Marie.....	535,670	744,046	1,159,581	116,020	4,115	1,279,716
Welland.....	22,444,822	36,692,493	31,581,809	23,314,097	4,241,409	59,137,311
St. Lawrence River....	25,609,027	23,485,240	32,324,219	10,949,422	5,820,626	49,094,266
Richelieu River.....	24,476	4,173	27,924	725	—	28,649
St. Peter's.....	325	277	602	—	—	602
Murray.....	—	—	—	—	—	—
Ottawa River.....	483	6	489	—	—	495
Rideau.....	434	—	434	—	—	434
Trent.....	19	87	106	—	—	106
St. Andrew's.....	626	1,005	1,631	—	—	1,631
Canso.....	793,653	365,672	1,091,715	60,235	7,375	1,159,323
Totals.....	49,409,535	61,292,999	66,188,510	34,440,499	10,073,525	110,702,533

12.—St. Lawrence-Great Lakes Traffic using St. Lawrence, Welland and Sault Ste. Marie Canals, 1965 and 1966

NOTE.—Duplications eliminated wherever possible.

Canals Used	1965			1966		
	Upbound Freight	Downbound Freight	Total	Upbound Freight	Downbound Freight	Total
	tons	tons	tons	tons	tons	tons
Traffic using Canadian St. Lawrence-Great Lakes System....	25,134,325	35,737,766	60,872,091	28,983,445	38,665,509	67,648,954
St. Lawrence and Ottawa.....	4,264	—	4,264	—	—	—
St. Lawrence only.....	4,865,250	1,685,911	6,551,161	6,214,926	1,360,983	7,575,909
St. Lawrence and Welland.....	17,244,744	19,353,303	36,598,047	19,353,318	22,058,384	41,411,702
St. Lawrence, Welland and Sault Ste. Marie.....	60,469	164,722	225,191	40,792	65,855	106,647
Welland only.....	2,478,001	13,839,835	16,317,836	2,873,613	14,502,092	17,375,705
Welland and Sault Ste. Marie.....	194,664	106,897	301,561	177,069	75,450	252,519
Sault Ste. Marie.....	286,933	587,098	874,031	323,727	602,745	926,472
Traffic using United States Locks at Sault Ste. Marie.....	11,415,468	82,770,873	94,186,341	11,587,496	90,802,223	102,389,719
Totals.....	36,549,793	118,508,639	155,058,432	40,570,941	129,467,732	170,038,673

Cargo traffic through the Canadian lock and United States locks at Sault Ste. Marie during 1966 totalled 103,669,435 tons—the first year since 1957 that shipments were in excess of 100,000,000 tons; the record to date was established in 1953 when 128,489,170 tons were reported through the lock systems. Of this volume, by far the greater portion travels through the American side, where the three wider and longer locks accommodated all but approximately 1,250,000 cargo tons in 1966. In terms of tonnage, three commodities—iron ore, wheat and coal—dominate all others in lake traffic, and in 1966 made up over 90 p.c. of movements through the Sault Ste. Marie locks. Iron ore shipments alone, at 69,439,792 tons, comprised 67.0 p.c. of the total and wheat shipments amounted to 14,998,263 tons, indicative of important sales abroad. A relatively small volume of wheat moves directly to foreign lands aboard ocean-going vessels, most of it being carried by the laker fleet to elevators along the St. Lawrence River to await later shipment to receiving countries. Bituminous coal shipped through the Sault Ste. Marie locks during 1966 amounted to 8,078,117 tons, reflecting a continuing, impressive consumption of this commodity in the Great Lakes region.

Canadian Use of the Panama Canal.—The use of the Panama Canal as a transport facility for the movement of goods from one Canadian port to another is of relatively minor importance. Of the total of 5,642,000 long tons of cargo leaving the West Coast of Canada in the year ended June 30, 1966 and passing through the Panama Canal, only 6,000 long tons were destined for Eastern Canadian ports. Similarly, of the 689,000 long tons of cargo leaving Eastern Canadian ports and passing through the Panama Canal, 13,000 long tons were destined for Western Canadian ports. The total tonnage passing through the Panama Canal and arriving in Canadian West Coast ports from any origin, Canada or elsewhere, amounted to 1,151,430 long tons in the year ended June 30, 1966; the total from any origin arriving at Eastern Canadian ports after having passed through the Panama Canal was 536,764 long tons.

Subsection 4.—The St. Lawrence Seaway

Events leading up to the beginning of the St. Lawrence Seaway project and the progress made during the years of its construction are covered in the 1954 to 1959 Year books. A special article carried in the 1956 edition (pp. 821-829) gives detailed information on Great Lakes-St. Lawrence waterway traffic immediately prior to the beginning of

construction on the project and another special article carried in the 1960 Year Book (pp. 851-860) covers the story of the Seaway, its new facilities and services and the movement of freight during the second year of its operation.

The St. Lawrence Seaway Authority, constituted as a Corporation by Act of Parliament in 1951 (RSC 1952, c. 242), undertook the construction (and subsequent maintenance and operation) of Canadian facilities between Montreal and Lake Erie to allow 27-foot navigation, concurrently with the construction of similar facilities in the International Rapids Section of the St. Lawrence River by the Saint Lawrence Seaway Development Corporation of the United States. The Seaway was opened to commercial traffic on Apr. 1, 1959 and officially opened on June 26, 1959. With the opening of the Seaway certain ancillary canals were transferred to the jurisdiction of the St. Lawrence Seaway Authority for operation and maintenance purposes. These include the Lachine, a section of the Cornwall Canal, a portion of the third Welland Canal and the Canadian locks at Sault Ste. Marie. Tolls are not assessed against vessel movements on these waterways and traffic data for them are not included in this Subsection. Major construction undertaken in 1967 was on the channel to bypass the City of Welland, scheduled for completion by the navigation season of 1972.

Tables 13 and 14 give combined traffic statistics of the St. Lawrence and Welland Canals for the years 1966 and 1967. Duplicate transits are eliminated so that the figures show the actual total movement of goods through the St. Lawrence Seaway. On this basis, 4,758 ships carrying about 29,326,000 tons of cargo moved upbound through the Seaway in 1967 and 4,845 vessels carrying 31,597,000 tons moved downbound. Ocean-going ships carried 22.2 p.c. of the total cargoes and lakers 77.8 p.c. Of the total tonnage carried upbound in 1967, 23,212,000 tons were domestic cargo and 6,114,000 tons were foreign traffic; downbound, 24,187,000 tons were domestic freight and 7,411,000 tons were carried to and from foreign ports.

13.—Summary Statistics of St. Lawrence Seaway Traffic, 1966 and 1967

(Combined traffic of the Montreal-Lake Ontario Section and the Welland Canal, with duplications eliminated)

Item	Upbound				Downbound			
	1966		1967		1966		1967	
	No. of Transits	Cargo Tons	No. of Transits	Cargo Tons	No. of Transits	Cargo Tons	No. of Transits	Cargo Tons
Type of Vessel								
Ocean—								
Cargo.....	1,280	5,272,393	1,194	5,362,986	1,265	7,792,751	1,187	7,100,615
Tanker.....	105	755,714	81	740,519	105	574,521	84	318,790
Laker—								
Cargo.....	2,824	20,230,079	2,303	20,592,545	2,846	28,778,274	2,365	23,165,145
Tug and barge.....	124	168,866	185	179,465	165	365,972	218	356,497
Tanker.....	610	2,384,986	590	2,450,483	610	612,909	583	656,411
Other craft ¹	335	359	405	—	346	3,613	408	—
Totals.....	5,278	28,812,397	4,758	29,325,998	5,337	38,128,040	4,845	31,597,458
Type of Cargo								
Bulk.....	2,228	23,606,631	2,043	24,048,691	3,237	35,299,751	2,431	28,347,370
General.....	886	3,888,235	893	4,283,271	97	140,459	97	182,699
Mixed.....	427	1,317,531	377	994,036	695	2,687,830	726	3,067,389
Passenger ²	18	—	54	—	23	—	60	—
In Ballast—								
Ocean.....	207	—	85	—	97	—	93	—
Laker.....	1,198	—	920	—	871	—	1,033	—
Other.....	314	—	386	—	317	—	405	—

¹ Includes naval vessels.

² Upbound passengers in all types of vessel numbered 1,912 and downbound 1,740 in 1966 and 7,588 and 7,895 in 1967.

13.—Summary Statistics of St. Lawrence Seaway Traffic, 1966 and 1967—concluded

Item	Upbound				Downbound			
	1966		1967		1966		1967	
	No. of Transits	Cargo Tons	No. of Transits	Cargo Tons	No. of Transits	Cargo Tons	No. of Transits	Cargo Tons
Type of Traffic								
Domestic—								
Canada to Canada...	1,757	7,874,569	1,510	8,097,927	2,154	13,534,048	1,796	9,037,971
Canada to United States.....	1,959	14,735,719	1,626	14,750,795	11	66,657	17	56,593
United States to Canada.....	9	46,487	10	74,170	1,552	15,480,646	1,397	14,322,573
United States to United States.....	236	314,909	333	288,771	292	723,411	359	769,692
Foreign—								
Canada—								
Import.....	243	1,031,081	246	1,071,680	—	—	—	—
Export.....	—	—	—	—	262	950,222	302	1,300,261
United States—								
Import.....	1,074	4,809,632	1,033	5,042,655	—	—	—	—
Export.....	—	—	—	—	1,066	7,373,056	974	6,110,368

14.—St. Lawrence Seaway Traffic classified by Type of Cargo, 1966 and 1967

(Combined traffic of the Montreal-Lake Ontario Section and the Welland Canal, with duplications eliminated)

Commodity	1966		1967	
	Cargo Tons	P.C. of Total	Cargo Tons	P.C. of Total
Agricultural Products.....	22,092,223	33.0	15,563,298	25.5
Wheat.....	12,172,173	18.2	7,573,514	12.4
Corn.....	3,669,293	5.5	2,294,174	3.8
Rye.....	251,919	0.4	153,840	0.3
Oats.....	803,648	1.2	519,920	0.9
Barley.....	1,482,556	2.2	1,617,820	2.6
Flour, wheat.....	104,850	0.2	90,358	0.1
Flour, edible, other.....	18,218	—	24,911	—
Soybeans.....	1,666,589	2.5	1,388,433	2.3
Soybean oil, cake and meal.....	408,258	0.6	565,898	0.9
Beans and peas.....	204,864	0.3	107,013	0.2
Malt.....	109,583	0.2	115,664	0.2
Flaxseed.....	545,300	0.8	432,570	0.7
Other agricultural products.....	589,982	0.9	679,183	1.1
Animal Products.....	388,769	0.6	401,131	0.6
Packing house products, edible.....	97,976	0.2	76,409	0.1
Hides, skins and pelts.....	83,203	0.1	83,123	0.1
Other animal products.....	202,590	0.3	241,599	0.4
Mineral Products.....	31,911,611	47.6	32,391,224	53.3
Bituminous coal.....	8,525,793	12.6	9,483,403	15.6
Coke.....	239,209	0.4	259,949	0.4
Iron ore.....	19,624,222	29.3	19,338,227	31.7
Aluminum ore and concentrates.....	122,550	0.2	92,466	0.1
Clay and bentonite.....	193,790	0.3	215,057	0.4
Gravel and sand.....	152,045	0.2	22,817	—
Stone, ground or crushed.....	1,422,164	2.1	1,063,833	1.8
Stone, rough.....	5,135	—	88,758	0.1
Petroleum, crude.....	41,641	0.1	128,385	0.3
Salt.....	771,110	1.1	875,370	1.5
Phosphate rock.....	—	—	27,116	—
Sulphur.....	50	—	24,121	—
Other mineral products.....	813,902	1.3	771,722	1.4
Forest Products.....	402,707	0.6	392,541	0.6
Pulpwood.....	288,962	0.4	279,675	0.4
Other forest products.....	113,745	0.2	112,866	0.2

14.—St. Lawrence Seaway Traffic classified by Type of Cargo, 1966 and 1967—concluded

Commodity	1966		1967	
	Cargo Tons	P.C. of Total	Cargo Tons	P.C. of Total
Manufactures and Miscellaneous	11,245,380	16.9	11,590,412	19.1
Gasoline.....	374,377	0.6	608,817	1.0
Fuel oil.....	2,814,311	4.4	2,791,944	4.6
Lubricating oils and greases.....	232,151	0.3	73,196	0.1
Petroleum products, other.....	220,277	0.3	154,634	0.2
Rubber, crude, natural and synthetic.....	145,865	0.2	152,469	0.2
Chemicals.....	366,534	0.6	394,313	0.6
Sodium products.....	136,824	0.2	109,875	0.2
Tar, pitch and creosote.....	148,918	0.2	139,597	0.2
Pig iron.....	356,656	0.6	250,078	0.4
Iron and steel, bars, rods, slabs.....	101,842	0.2	102,525	0.2
Iron and steel, nails, wire.....	139,510	0.2	108,248	0.2
Iron and steel, manufactured.....	2,836,517	4.4	3,294,069	5.5
Machinery and machines.....	105,422	0.2	108,461	0.2
Cement.....	138,218	0.2	93,393	0.1
Wood pulp.....	52,144	0.1	57,453	0.1
Newsprint.....	595,235	0.9	472,903	0.8
Syrup and molasses.....	122,150	0.2	132,893	0.2
Sugar.....	197,588	0.3	168,546	0.3
Food products.....	192,642	0.3	309,355	0.5
Scrap iron and steel.....	177,169	0.3	460,196	0.7
Other manufactures and miscellaneous.....	1,791,030	2.2	1,607,447	2.7
Package Freight	899,747	1.3	584,850	1.0
Package freight—domestic.....	869,454	1.3	559,553	1.0
Package freight—foreign.....	30,293	--	25,297	--
Totals	66,940,437	100.0	60,923,456	100.0

On the Montreal-Lake Ontario Section, upbound traffic amounted to 26,700,000 tons in 1967 and downbound traffic to 17,300,000 tons for a total decrease of 10.6 p.c. over 1966. The former was accounted for almost entirely by the volume of iron ore shipped from St. Lawrence ports to Hamilton and Lake Erie, and the latter by overseas shipments of wheat. There were 220 fewer upbound transits and 200 fewer downbound transits in 1967 than in 1966, indicating a slight decrease in the number of vessels using this portion of the Seaway. Bulk cargo comprised 86.5 p.c. of the total traffic through the Section in 1967, the principal commodities through the St. Lawrence canals being iron ore, wheat, corn, fuel oil, barley and bituminous coal. Traffic patterns show that 30.0 p.c. of the total movement was between Canadian ports, 38.7 p.c. moved between Canadian and United States ports and 30.7 p.c. consisted of foreign trade to and from Canada and the United States. The small remainder was traffic between ports in the United States.

There were 7,437 transits through the Welland Canal in 1967, with a cargo volume of 22,400,000 tons upbound and 30,400,000 tons downbound; bulk cargo accounted for 90 p.c. of the traffic. Although many vessels pass through both the St. Lawrence and the Welland Canals on "through" trips, there is a substantial amount of local traffic between Great Lakes ports which involves only the Welland Canal. These movements are largely of iron ore, grain and coal. The Welland Canal traffic was 8,800,000 cargo tons greater than that reported for the Montreal-Lake Ontario Section.

Income of the St. Lawrence Seaway Authority for 1967 amounted to \$19,384,700 comprising toll revenue of \$17,282,152 assessed for transits through the Seaway located between Montreal and Lake Ontario and sundry revenues (rentals, wharfage, bridge revenue, etc.) of \$2,102,610. Total expenses for 1967 amounted to \$15,242,135, of which operation and maintenance expenses amounted to \$11,054,187 and regional headquarters administration and engineering expenses amounted to \$3,990,384, and construction \$197,564.

Pleasure craft locked through the Montreal-Lake Ontario Section canals numbered 12,434 upbound and 14,339 downbound in 1967, and those locked through the Welland Canal numbered 1,893 upbound and 2,478 downbound. This traffic to and from Montreal was exceptionally high compared with previous years because of the attraction of Expo 67.

Subsection 5.—Marine Services of the Federal Government

The Marine Services of the Department of Transport comprises five Branches—Marine Works, Marine Regulations, Marine Operations, Shipbuilding, and Marine Hydraulics—each headed by a director responsible to the Assistant Deputy Minister, Marine.

The *Marine Works Branch* responsibilities include provision and maintenance of aids to navigation, maintenance and management of Canada's secondary canals, administration of public harbours and wharves, and general supervision of harbour commissions. It has three Divisions—Aids to Navigation, Canals and Harbours, and Property.

The *Marine Regulations Branch*, with three Divisions—Ships Machinery Inspection, Hulls and Equipment Inspection, and Nautical and Pilotage—is responsible for the administration of those parts of the Canada Shipping Act that relate to the operations of Canadian ships and ships within Canadian waters. It is charged with the registry and licensing of ships, the certification of ships' officers and the engagement and discharge of ships' crews. Other responsibilities include pilotage, safety inspection of ships, handling of dangerous cargoes, prevention of oil pollution of Canadian waterways and air pollution by ships, and the investigation of marine accidents. It is also responsible for the co-ordination of Canada's participation in the Intergovernmental Maritime Consultative Organization, a United Nations body charged with the promotion of marine safety on an international basis.

The *Marine Operations Branch* is responsible for operating the departmental fleet, the Canadian Coast Guard, which consists of 146 ships of various types including both heavy and light icebreakers, an icebreaking cable repair ship, a special Arctic service ship, and two weather-oceanographic ships, the CCGS *Vancouver* and CCGS *Quadra*, which alternate in manning Weather Station "Papa" in the Pacific Ocean.



The CCGS John A. Macdonald back on the job of patrolling the Gulf of St. Lawrence after its epic voyage of 1967. The journey started on July 4 as a routine re-supply mission in the Eastern Arctic but took the icebreaker unexpectedly through the famous Northwest Passage and a rescue deep in the Polar ice, then through the Bering Strait to Vancouver and eventually home to Dartmouth, N.S., by way of the Panama Canal.

A principal duty of the fleet is tending lighthouses, buoys and other aids to navigation in Canadian coastal and inland waters. Coast Guard ships, including icebreakers, take part each summer in the Department's Arctic re-supply operations, moving some 100,000 tons of cargo to more than 40 ports of call in the Far North. These ships work in conjunction with a number of chartered commercial vessels which carry most of the cargo. During the winter, the icebreakers operate in support of commercial shipping in the Gulf of St. Lawrence from Cabot Strait to the Quebec North Shore. They also operate in the St. Lawrence River to break ice jams and prevent flooding, particularly in the section between Trois-Rivières and Montreal.

The Coast Guard ships assist with projects of other Canadian Government departments, such as scientific programs carried out by research teams based aboard various ships ranging from the Great Lakes to the High Arctic in such fields as oceanography, hydrography and related sciences. Departments concerned with the development of the Canadian Arctic and with the welfare of its population also carry out their undertakings with the aid of Coast Guard ships.

A Canadian Coast Guard Officer Training College, officially opened in September 1966 at Sydney, N.S., provides a four-year course for students, who will graduate as junior engine-room or deck officers. Upon acquiring the necessary sea experience, they may take the examinations to earn the rank of engineer first-class or master foreign going, respectively.

The *Shipbuilding Branch* prepares the basic requirements for new vessels required by the Canadian Coast Guard and supervises the design and specifications for construction. The design drawings are prepared by commercial naval architects and the ships are built, under contract, by various Canadian shipbuilding firms under the supervision of the Branch. It also performs this work for a number of other Government departments and agencies.

The *Marine Hydraulics Branch* comprises three Divisions—Marine Hydraulics, the St. Lawrence Ship Channel, and Marine Traffic Control. Marine Hydraulics deals with the hydraulic and engineering aspects of providing navigable channels for marine transportation on the Great Lakes and the St. Lawrence River. Maintenance and improvements of the St. Lawrence River below Montreal and of the Saguenay River are under the jurisdiction of the St. Lawrence Ship Channel Division, which is located in Montreal.

In the interests of St. Lawrence River traffic safety, a Marine Traffic Control Service was established on Apr. 3, 1967, as a result of studies initiated by the Department in 1964. Using very high frequency (VHF) radio equipment, the service keeps track of ship traffic in much the same way as the air traffic controllers watch over the busy sky lanes. The information needed to assist ships' masters in the safe conduct of their vessels comes from two main traffic control centres—one at Quebec and the other at Montreal—six shore stations and 18 reporting points along the river between Montreal and Les Escoumins, Que. All ships navigating the river must be equipped with the required VHF equipment to take advantage of the service.

Field Organization.—In the field, a regional management organization within the Marine Services is being developed. This system will provide the Department with more efficient means of matching resources to workloads in all areas. Included in the completed system will be the 11 district marine agencies that have existed for many years and some 15 other Marine Services field offices that in the past have been reporting individually to Marine Services directors or to the Assistant Deputy Minister, Marine.

The first step was completed in May 1967 with the establishment of the Maritime Region. This covers the Maritime Provinces and their outlying islands including Sable Island and the Magdalen Islands, and embraces the Steamship Inspection Service and Nautical and Pilotage offices in the three provinces. In all, there will be five regions each under a regional director. The other four will be Newfoundland Region; Laurentian

Region, including Quebec, Hudson Bay and Eastern Arctic waters; Lakes Region, including Ontario and Manitoba inland waters; and Western Region, including the Pacific Coast, western and northwestern Canadian waterways and the Western Arctic.

Aids to Navigation.—The Canadian system of aids to navigation is similar to that of other North American countries. Such aids maintained by the Department of Transport for Canadian and contiguous waters consist of buoys, lightships, lighthouses, day beacons, radio beacons and two electronic networks operating on the hyperbolic principle—Loran and Decca. The numbers of danger signals maintained during the years ended Mar. 31, 1966 and 1967 were:—

<i>Type of Signal</i>	<i>1965-66</i>	<i>1966-67</i>	<i>Type of Signal</i>	<i>1965-66</i>	<i>1966-67</i>
	No.	No.		No.	No.
Lights.....	3,536	3,618	Lighted and combination lighted whistling and bell buoys.....	1,675	1,821
Lightships.....	2	2	Unlighted bell and whis- tling buoys.....	20	27
Light-keepers.....	895	882	Electronic signals.....	22	21
Fog whistles and sirens...	59	67	Unlighted beacons and buoys.....	13,037	13,068
Diaphones and tyfons....	273	275			
Mechanical bells and gongs	10	12			
Hand fog horns and bells..	66	68			

All aids incorporating light or sound devices are listed in the Department of Transport annual publication *List of Lights and Fog Signals*. Information on the radio beacons and on Loran and Decca is published in *Radio Aids to Marine Navigation*.

Navigable waters have been improved greatly by dredging in channels and harbours, by the removal of obstructions, and by the building of remedial works to maintain or control water levels. Incidental to these developments of navigable waters are works to guard shorelines and prevent erosion, and for the control of roads and bridges that cross navigable channels. Icebreaking operations are continuous throughout the winter.

St. Lawrence Ship Channel.—This channel extends from about 40 miles below Quebec City to the foot of the Lachine Canal at Montreal, a distance of 200 miles. About 130 miles of this distance is dredged channel.

Above Quebec the channel has a limiting depth of 35 feet at extreme low water and a minimum width of 550 feet, with additional width up to 1,500 feet at all curves and difficult points, and additional anchorage and turning areas. Widening of the channel to a minimum width of 800 feet, commenced in 1952, is about 85 p.c. completed. This section comprises about 115 miles of dredged channel. Below Quebec the limiting depth of dredged channel, about 15 miles in length, is 30 feet at low tide, with a width of 1,000 feet. An average tidal range of 15 feet in this area provides ample depth for any vessel using the St. Lawrence route. Above Quebec, maintenance requirements as a result of silting in this dredged channel are relatively minor but below the city silting is more pronounced because of tidal action.

The ship channel is well defined by buoys and the centre marked by range lights, permitting uninterrupted day and night navigation throughout the open season from about mid-April to early December.

The movements of all shipping, weather and ice conditions and obstructions to traffic throughout the St. Lawrence waterway are made available through the Marine Traffic Control Service (see p. 836).

Steamship Inspection.—The Steamship Inspection Service was established by authority of the Canada Shipping Act. Its functions include the formulation and subsequent enforcement of regulations concerned with the approval of design of hulls, machinery and equipment of ships; inspection during construction; periodic inspection and issuance of inspection certificates; the assignment of load lines; the conditions under which dangerous

goods may be carried in ships; the protection against accident of workers employed in loading and unloading ships; the prevention from pollution of Canadian territorial waters by oil from ships; control of pollution of the atmosphere by smoke emitted by ships; control of the powering, equipment and load limits of small vessels; and the certification of marine engineers. The Board also prepares correspondence courses in marine engineering for use in Marine Engineering Schools now controlled by the Department of Labour.

The Chairman and the Board of Steamship Inspection are located at Ottawa and field offices are maintained in the principal ocean and inland ports. A total of 1,780 vessels of Canadian ownership or registry, including 476 passenger ships, 166 new ships built in Canada, 29 ships built outside Canada for registry in Canada, 18 converted or reconditioned ships and 12 vessels registered or owned elsewhere, were inspected during the year ended Mar. 31, 1967.

Pilotage.—Pilotage service functions under the provisions of Part VI and Part VIA of the Canada Shipping Act. Wherever a pilotage district has been created by the Governor in Council, qualified pilots are licensed by the pilotage authority of the district. There are in Canada 25 pilotage districts, in nine of which the Minister of Transport is the pilotage authority (see Table 15); in each of the other districts the authority is a local body appointed by the Governor in Council. There are also three districts that are administered jointly by Canada and the United States; and one area in which the Department of Transport provides qualified pilots.

15.—Pilotage Service, by Pilotage District, 1965 and 1966

District	1965		1966	
	Pilotage Trips	Net Registered Tonnage	Pilotage Trips	Net Registered Tonnage
	No.		No.	
Bras d'Or Lakes, N.S.....	357	676,983	283	581,131
Sydney, N.S.....	1,885	7,982,780	2,236	9,182,655
Halifax, N.S.....	3,708	16,320,782	3,662	16,282,010
Saint John, N.B.....	1,447	5,975,137	1,454	6,266,928
Quebec, Que.....	8,578	45,520,351	8,903	49,413,904
Montreal, Que.....	9,635	46,405,717	10,089	57,702,251
Cornwall, Ont.....	3,022	—	3,073	12,444,102
Churchill, Man.....	119	768,751	94	692,922
British Columbia.....	9,115	37,410,635	9,284	37,740,585
Totals.....	37,866	161,061,086	39,078	190,306,438

Section 2.—Financial Statistics of Waterways

The principal statistics available on the cost of facilities for water-borne traffic consist of the record of public expenditure on waterways. Such expenditure may be classified as capital expenditure, or investment and expenditure for maintenance and operation. Revenue from operation is also recorded. The major part of the capital expenditure for the permanent improvement of waterways is provided by the Federal Government, that by municipalities and private industry being confined almost entirely to terminal or dockage facilities.

The figures available of federal capital expenditure on waterways are contained in the *Public Accounts* and the annual reports of the Departments of Transport, Public Works and Finance and in the annual report of the St. Lawrence Seaway Authority. However,

for several reasons, these figures cannot be regarded as an accurate indication of the present worth of the undertakings represented and therefore are not included here; the one exception is the capital expenditure made by the National Harbours Board on facilities under its jurisdiction. The capital values of the fixed assets administered by the Board at Dec. 31, 1966 amounted to \$482,975,054; this figure includes expenditure on all buildings, machinery and durable plant improvements less deductions for depreciation and the scrapping or abandonment of plant, and therefore represents a fair approximation of the present value of the properties. The total amount advanced by the Federal Government to the National Harbours Board for capital expenditure during 1966 was \$23,973,264, distributed as follows: Champlain Bridge (Montreal), \$12,595,410; Montreal, \$5,522,948; Halifax, \$2,193,293; Vancouver, \$1,629,368; Quebec, \$1,262,651; and Saint John, (N.B.), \$769,594.

Waterways Expenditure and Revenue.—Expenditure under this heading (Tables 16 to 18) is mainly for the operation and maintenance of various facilities for water transport but, unfortunately, the line between operation and maintenance expenditure is not as finely drawn as is desirable. Revenue in connection with waterways of the Department of Transport, the Department of Public Works and the St. Lawrence Seaway Authority is shown in Table 19.

To facilitate water transportation, the Federal Government expends annually, in addition to the recurrent expenditure shown here, a considerable amount to cover deficits of the National Harbours Board, and for mail subsidies and steamship subventions as shown in Table 21. Operating revenue and expenditure of facilities administered by the National Harbours Board are shown separately in Table 20.

16.—Department of Transport Expenditures on Marine Service, Years Ended Mar. 31, 1965 and 1966

Service	1965	1966
	\$	\$
Administration, including agencies.....	1,269,740	1,397,002
Marine Works Branch—		
Aids to Navigation Division—		
Administration, operation and maintenance.....	7,207,822	8,420,009
Construction.....	3,700,880	6,121,227
Canals Division—		
Administration, operation and maintenance.....	2,565,616	3,701,925
Construction.....	4,431,647	4,798,798
Marine Hydraulics Branch—		
Ship Channel Service—		
Administration, operation and maintenance of St. Lawrence and Saguenay Rivers.....	1,341,079	1,493,696
Marine Regulations Branch—		
Steamship Inspection Division.....	1,623,932	1,785,197
Nautical and Pilotage Division—		
Nautical Services.....	447,055	577,064
Pilotage Services—		
Administration, operation and maintenance.....	1,608,322	2,060,262
Pensions to former pilots.....	1,200	1,200
Marine reporting service.....	128,162	129,189
Construction.....	594,502	593,013
Marine Operations Branch—		
Administration, operation and maintenance.....	23,147,992	25,075,514
St. Lawrence Seaway Authority—		
Operating deficit and capital requirements of canals and works entrusted to the St. Lawrence Seaway Authority.....	1,867,006	1,899,563
Totals.....	49,934,955	58,053,659

17.—Department of Public Works Expenditure on Waterways (Harbours, Rivers, Roads and Bridges), Years Ended Mar. 31, 1965 and 1966

NOTE.—Compiled from the annual reports of the Department concerned by the Comptroller of the Treasury, Department of Finance. Excludes expenditures on harbours administered by the National Harbours Board as shown in Table 20.

Year and Province or Territory	Dredging ¹	Construction and Improvements	Repairs and Upkeep	Staff and Sundries	Total
	\$	\$	\$	\$	\$
1965					
Newfoundland.....	309,356	4,132,250	658,205	377,458	5,477,269
Prince Edward Island.....	305,444	421,935	255,299	30,504	1,019,182
Nova Scotia.....	102,059	2,536,559	748,742	124	3,387,484
New Brunswick.....	198,424	2,388,239	315,220	2,232	2,904,115
Quebec.....	315,852	5,390,418	958,957	355,565	7,020,792
Ontario.....	2,061	4,494,422	391,785	38,807	4,927,075
Manitoba.....	237,709	124,925	41,778	152,350	556,762
Saskatchewan.....	—	41,823	7,067	96,110	145,000
Alberta.....	264,035	6,456	40,633	—	311,124
British Columbia.....	758,777	2,952,444	370,043	293,591	4,374,855
Yukon and Northwest Territories.....	—	79,138	—	—	79,138
Canada, 1965.....	2,493,717	22,568,609	3,787,729	1,352,741	30,202,796
1966					
Newfoundland.....	451,847	4,300,255	590,104	36,045	5,378,251
Prince Edward Island.....	318,817	788,328	235,861	42,581	1,385,587
Nova Scotia.....	78,883	4,572,295	574,616	2,222	5,228,016
New Brunswick.....	139,370	3,740,176	355,415	77,626	4,312,587
Quebec.....	383,907	6,366,673	953,761	520,470	8,224,811
Ontario.....	—	4,931,448	526,948	56,384	5,514,780
Manitoba.....	239,973	45,197	97,249	175,971	558,390
Saskatchewan.....	—	61	—	—	61
Alberta.....	301,831	8,213	40,904	195,924	546,872
British Columbia.....	806,785	2,470,196	462,469	400,371	4,139,821
Yukon and Northwest Territories.....	—	100,061	9,827	—	109,888
Canada, 1966.....	2,721,413	27,322,903	3,847,154	1,507,594	35,399,064

¹ Includes expenditures for dredging plants.

18.—St. Lawrence Seaway Authority Expenditures, 1965-67

Item	1965	1966	1967
	\$	\$	\$
Administration—			
Headquarters.....	1,348,237	1,272,775	1,583,978
Regional.....	960,515	1,426,065	1,618,274
Engineering.....	1,160,147	538,406	788,132
Construction Branch.....	—	—	197,584
Operation and Maintenance—			
Salaries and wages.....	4,779,185	5,883,554	6,132,316
Employee benefits.....	420,253	632,612	703,651
Maintenance materials and services.....	3,714,987	4,704,574	3,361,204
Grants in lieu of municipal taxes.....	434,405	488,664	530,695
Other operation and maintenance expenses.....	999,291	551,475	326,321
Totals.....	13,817,020	15,498,125	15,242,135

19.—Federal Government Revenue in connection with Waterways, Years Ended Mar. 31, 1965 and 1966

NOTE.—Compiled from annual reports of the Department of Transport, the *Public Accounts* and the annual reports of the St. Lawrence Seaway Authority.

Department and Item	1965	1966	Department and Item	1965	1966
	\$	\$		\$	\$
Department of Transport			Department of Public Works		
Marine Services	8,763,137	6,541,200	Earnings of Dry Docks	465,965	459,117
Canals.....	415,557	420,536	Champlain Dock, Lauzon...	225,470	198,542
Fines and forfeitures.....	2,283	3,242	Lorne Dock, Lauzon.....	51,255	48,236
Steamship inspection.....	205,548	246,255	Esquimalt new dock.....	185,815	211,298
Wharf revenue.....	1,464,558	1,418,537	Selkirk repair slip.....	3,425	1,041
Harbour dues.....	398,733	437,305	Works and Plants Leased	77,339	81,592
Measuring surveyor's fees.....	2,481	2,742	Kingston dry dock.....	12,100	12,100
Examinations—master's and mates' fees.....	15,803	16,994	Ferry privileges.....	351	363
Pilots' licence fees (pilotage).....	580	885	Dredges and plants.....	64,888	69,129
Pilotage fees.....	633,237	785,858	Rents from water lots, etc.....	62,287	142,132
Pilot boat fees.....	274,550	288,253	Refunds of expenditure reported in previous years.....	547,893	103,286
Shipping fees.....	11,429	11,945	Sundry receipts, test borings, etc.....	3,584	4,814
Marine steamer earnings.....	4,883,276	2,334,939	Totals, Department of Public Works	1,157,068	790,941
Rentals—water lots and lighthouse sites.....	59,088	79,138	St. Lawrence Seaway Authority	Calendar Year	Calendar Year
Sale of land, buildings, etc.....	92,306	19,612	Tolls assessed.....	15,480,631	17,281,526
Merchant seamen's identity certificates.....	623	739	Rentals.....	567,214	604,758
Miscellaneous.....	130,785	140,958	Wharfage.....	156,585	311,663
Refunds, previous year's expenditures.....	95,385	256,881	Miscellaneous.....	643,751	1,198,171
Port warden fees.....	76,915	76,381	Totals, St. Lawrence Seaway Authority	16,848,181	19,396,118
Canadian Transport Commission	3,153	2,749			
Totals, Department of Transport	8,766,290	6,543,949			

20.—Operating Revenue and Expenditure of Harbours, Elevators and Bridges under the National Harbours Board, 1965 and 1966

Harbour and Year	Operating Revenue	Operating Expenditure	Net Operating Income	Harbour and Year	Operating Revenue	Operating Expenditure	Net Operating Income
	\$	\$	\$		\$	\$	\$
St. John's, Nfld. —				Jacques Cartier Bridge (Montreal) —			
1965.....	247,574	106,208	141,366	1965.....	129,084	362,070	—232,986
1966.....	327,185	258,058	69,127	1966.....	129,724	1,685,334	—1,555,610
Halifax —				Champlain Bridge (Montreal) —			
1965.....	2,650,613	2,381,401	269,212	1965.....	990,976	454,251	536,725
1966.....	2,713,317	3,137,215	—423,898	1966.....	1,329,190	893,898	430,292
Saint John —				Prescott Elevator —			
1965.....	1,156,522	1,071,274	115,248	1965.....	951,824	479,708	472,116
1966.....	1,190,021	1,631,171	—441,150	1966.....	936,192	603,163	333,029
Chicoutimi —				Port Colborne Elevator —			
1965.....	167,617	46,625	120,992	1965.....	376,810	279,135	97,675
1966.....	179,874	81,236	98,638	1966.....	448,179	374,312	73,867
Quebec —				Churchill —			
1965.....	4,202,845	2,957,283	1,245,562	1965.....	1,499,131	1,149,813	349,319
1966.....	4,015,905	3,793,444	222,461	1966.....	1,257,028	1,371,068	—114,040
Trois-Rivières —				Vancouver —			
1965.....	990,646	182,201	808,445	1965.....	5,935,367	3,664,389	2,270,978
1966.....	975,302	328,302	647,000	1966.....	6,522,025	5,340,743	1,181,282
Montreal —							
1965.....	15,880,480	8,794,855	7,085,625				
1966.....	16,994,397	13,004,216	3,990,181				

Shipping Subsidies.—Table 21 shows the net amount of steamship subventions paid in connection with contracts made for the maintenance of essential coastal and inland water shipping services. The payment of these subventions is administered by the Canadian Transport Commission.

21.—Steamship Subventions, Years Ended Mar. 31, 1966 and 1967

Services	1966	1967
	\$	\$
Western Local Services—		
Gold River and Zeballos, B.C.....	24,000	24,000
Vancouver and northern British Columbia ports, B.C.....	300,000	227,914
Vancouver and west coast of Vancouver Island, B.C.....	88,000	88,000
Eastern Local Services—		
Burnside and St. Brendans, Nfld.....	—	10,000
Carmarville and Fogo Island, Nfld.....	—	21,000
Dalhousie, N.B., and Miguasha, Que.....	27,523	—
Grand Manan and the mainland, N.B.....	239,500	272,067
Halifax, N.S., and Cupids, Nfld.....	—	25,000
Halifax, N.S., and St. John's, Nfld.....	201,373	239,571
Ile aux Coudres and Les Eboulements, Que.....	33,000	33,000
Ile aux Grues and Montmagny, Que. (summer).....	6,500	6,500
Ile aux Grues and Montmagny, Que. (winter).....	1,700	1,700
Iles de la Madeleine, Que., Cheticamp and Halifax, N.S.....	34,436	35,000
Iles de la Madeleine and Montreal, Que.....	100,000	100,000
Montreal, Que., and Botwood, Nfld.....	—	75,000
Mulgrave and Canso, N.S.....	52,400	52,400
Mulgrave, Queensport and Isle Madame, N.S.....	31,250	2,604
Owen Sound and ports on Manitoulin Island and Georgian Bay, Ont.....	157,000	154,143
Peele Island and the mainland, Ont.....	78,695	78,695
Pictou, N.S., Charlottetown, Souris, P.E.I., and Iles de la Madeleine, Que.....	278,000	278,000
Portugal Cove and Bell Island, Nfld.....	273,307	270,616
Prince Edward Island and Newfoundland.....	82,900	82,900
Prince Edward Island and north shore of St. Lawrence River, Que.....	42,500	35,000
Prince Edward Island and Nova Scotia.....	816,320	830,960
Quebec, Natashquan and Blanc Sablon, Que.....	430,000	430,000
Rimouski and north shore ports to Blanc Sablon, Que.....	290,000	290,000
Rivière du Loup and St. Siméon, Que.....	21,000	21,000
Ste. Anne des Monts and Sept Iles, Que.....	50,000	—
Saint John and White Head Island, N.B.....	3,500	—
St. Lawrence River and Gaspé ports to Chandler, Que.....	43,000	43,000
Sorel and Ile St. Ignace, Que.....	43,000	43,000
Trois Pistoles and Les Escoumins, Que.....	5,000	5,000
Twillingate and New World Island, Nfld.....	50,656	50,736
Yarmouth, N.S., and Rockland, Maine, U.S.A.....	10,650	10,650
Newfoundland Coastal Steamship Services.....	5,550,063	6,885,749
Totals.....	9,365,273	10,723,265

PART V.—CIVIL AIR TRANSPORT

Section 1.—Civil Aviation Administration and Policy

Administration.—Civil aviation in Canada is under the jurisdiction of the Federal Government and is administered under the authority of the Aeronautics Act, 1919 and amendments thereto. The Aeronautics Act is in three parts. Broadly speaking, Part I deals with the technical side of civil aviation comprising matters of registration of aircraft, licensing of airmen, the establishment and maintenance of airports and facilities for air navigation, air traffic control, accident investigation and the safe operation of aircraft. This Part of the Act is administered by the Director of Civil Aviation under the supervision of the Assistant Deputy Minister, Air Services, Department of Transport. Part II of the Act deals with the social and economic aspects of commercial air services and assigns to the Canadian Transport Commission certain regulatory functions of commercial air service (see p. 793). Part III deals with matters of government internal administration in connection with the Act.

International Air Agreements.—The position of Canada in the field of aviation as well as its geographical location makes co-operation with other nations of the world engaged in international civil aviation imperative. Canada therefore took a major part

in the original discussions that led to the establishment of the International Civil Aviation Organization (ICAO) which has headquarters at Montreal, Que. At present, Canada has air agreements with 21 other countries.

Federal Civil Aviation Policy.—The intent of Federal Government concern in civil aviation is to provide an efficient and stable service for the Canadian public and the best possible economic framework for the major and regional carriers. In formulating its aviation policy in 1964, three principles were accepted by the Government as basic. The first related to the international field and stated that air services provided by Canadian airlines should serve the Canadian interest as a whole; that these services should not be competitive or conflicting but should represent a single integrated plan which could be achieved by amalgamation, by partnership or by a clear division of fields of operations. The two major airlines agreed that the most effective way to carry out this policy would be by a clear division of their fields of operations so that outside Canada neither airline would serve any point served by the other. As a result, it was decided that Canadian Pacific Airlines Limited would serve the whole Pacific area, the whole Continent of Asia, Australia and New Zealand, Southern and Southwestern Europe and Latin America, and that Air Canada would serve Britain, Western, Northern and Eastern Europe, and the Caribbean. The only exception to this clear-cut division is that CPA would continue to serve the Netherlands. This division accounts for the whole of the world except Africa and the United States. Where decisions depend on the contemplation of service to those undesignated areas, co-operation is maintained between the two carriers in sales and agency relationships, each carrier representing the other outside its own area, so that passengers are encouraged to travel to their destinations by Canadian airlines. Other measures of co-operation, including joint advice to the Government on air negotiations and joint servicing and support arrangements, are maintained.

The second principle concerned the domestic mainline services and stated that, although competition was not to be rejected, development of competition should not compromise or seriously injure the economic viability of Air Canada's domestic operations which represent the essential framework of its network of domestic services, and in the event that competition continues, opportunity should be ensured for growth to both lines above this basic minimum.

The third principle concerned the role of regional air carriers providing scheduled service and their relationship with the mainline carriers. Recommendations were prepared by the two major airlines and the larger regional carriers which resulted in a "Statement of Principles for Regional Air Carriers" tabled in the House of Commons on Oct. 20, 1966, by the Minister of Transport. These principles are summarized as follows:—

- (1) Regional carriers will provide regular route operations into the North and will operate local or regional routes to supplement the domestic mainline operations of Air Canada and CPA; they will be limited to a regional role.
- (2) Greater scope will be allowed regional carriers in the development of routes and services by the following means: (a) where appropriate, limited competition on mainline route segments of Air Canada or CPA may be permitted to regional carriers if this is consistent with their local route development; (b) in a few cases, secondary routes at present operated by Air Canada and CPA may become eligible for transfer to regional carriers; and (c) a larger role will be allotted to regional carriers in connection with the development of domestic and international charter services, inclusive tours and new types of services.
- (3) Greater co-operation between the mainline carriers and the regional carriers will be developed in a variety of fields, ranging from technical and servicing arrangements to joint fare arrangements.
- (4) A limited policy of temporary subsidies for regional routes will be introduced, to be based upon a "use it or lose it" formula.
- (5) Firmer control will be exercised over the financial structure of regional carriers in connection with new licensing arrangements.
- (6) Regional carriers will be assisted with the acquisition of aircraft by development of a scheme for consultation between government and the carriers regarding plans for new aircraft, and by a special investigation designed to explore the possibility of developing a joint approach to this problem on the part of the carriers.

To implement the above principles the former Air Transport Board, (now the Air Transport Committee of the Canadian Transport Commission) introduced during the year the following measures:—

- (1) Rule No. 29/67 provides for the carriage of two pro-rata charter groups on any pro-rata charter flight, provided that each group is composed of not less than 40 persons;
- (2) Rule No. 30/67 provides for the operation of domestic and international inclusive tours with chartered aircraft;
- (3) General Order No. 46/67 introduces a requirement for prior approval of large aircraft acquisitions;
- (4) General Order No. 47/67 permits the operation by regional air carriers of entity and pro-rata affinity group passenger charters between mainline points, subject to certain restrictions; and
- (5) a number of temporary measures were included to facilitate passenger movement to meet the increased demands of Canada's Centennial celebrations.

Thus, in the international field, the joint approach to the provision of world-wide service by the two major Canadian carriers is intended to strengthen their position in a very competitive field and provide a better over-all service to the travelling public. In the domestic field, a degree of competition remains to provide the public with the advantages that can result from a competitive atmosphere but avoids excesses of competition, which could be ruinous to the operators and unsatisfactory to the public.

Section 2.—Current Air Services

Two major airlines, Air Canada and Canadian Pacific Airlines Limited, form the nucleus of Canada's freight and passenger air service. Current operations of these airlines are discussed briefly below, followed by short outlines of the services provided by independent airlines and a list of Commonwealth and foreign air carriers licensed to operate services into Canada.

Broadly, air transport services in Canada may be grouped into two classes—Scheduled Services and Non-scheduled Services. Services in the first group are operated by air carriers that offer public transportation of persons, mails and/or goods by aircraft, serving designated points in accordance with a service schedule and at a toll per unit. The second group includes the following:—

- (1) Regular Specific Point Air Services—operated by air carriers that offer public transportation of persons, mails and/or goods by aircraft serving designated points on a route pattern and with some degree of regularity, at a toll per unit.
- (2) Irregular Specific Point Air Services—operated by air carriers that offer public transportation of persons, mails and/or goods by aircraft from a designated base, serving a defined area or a specific point or points, at a toll per unit.
- (3) Charter Air Services—operated by air carriers that offer public transportation of persons and/or goods by aircraft from a designated base, at a toll per mile or per hour for the charter of the entire aircraft, or at such other tolls as may be permitted by the Air Transport Committee.
- (4) Contract Air Services—operated by air carriers that do not offer public transportation but who transport persons and/or goods solely in accordance with one or more specific contracts.
- (5) Flying Clubs—operated by air carriers incorporated as non-profit organizations for the purpose of furnishing flying training and recreational flying to club members.
- (6) Specialty Services—operated by air carriers for purposes not provided for by any other class, such as flying training, recreational flying, aerial photography and survey, aerial pest control, aerial advertising, aerial patrol and inspection, etc.

Air Canada.—Continued development in all phases of Air Canada's operations made 1966 an exceptional year in terms of both traffic and revenues. The airline carried 5,293,561 passengers on scheduled and charter services, an increase of 11 p.c. over 1965. The volume of business exceeded expectations, the airline sharing in a general increase

throughout the industry, with virtually all major air carriers reporting notable traffic growth. Total scheduled seat miles offered were 6,387,000,000, up 17 p.c. and revenue passenger-miles flown exceeded 4,193,000,000, an increase of 18 p.c. The passenger-load factor rose from 65 p.c. in 1965 to 66 p.c. in 1966.

North American passenger-miles flown, which represented almost three quarters of Air Canada's scheduled passenger traffic, increased 15 p.c. as the airline introduced additional services on most major domestic routes; 2,984,000,000 domestic passenger-miles were flown in 1966 compared with 2,591,000,000 in 1965. There was a 26-p.c. increase in scheduled transatlantic passenger traffic. On the routes to Florida, Bermuda, the Bahamas and the Caribbean, passenger-miles flown exceeded 394,000,000, up 28 p.c. over 1965.

For the fifth successive year there was a marked expansion in commodity traffic in 1966, air freight increasing 33 p.c. to 74,500,000 ton-miles. Air express rose 13 p.c. to 6,000,000 ton-miles. This exceptional growth was the result of added jet freighter capabilities as well as the rapidly growing awareness by the business community of the advantages of air transport in marketing plans.

At the end of 1966, Air Canada was operating over 63,692 unduplicated route miles, linking Canada, the United States, the British Isles, Continental Europe and the Caribbean. At year-end, its fleet consisted of 18 Douglas DC-8s, 6 DC-9s, 23 Vickers Vanguard and 39 Vickers Viscount turbo-prop aircraft. The Company also had four stretched DC-8 and 12 stretched DC-9 aircraft on order, scheduled for delivery in 1967, the addition of which increased to 40 Air Canada's fleet of pure jets by the end of that year. Announcement was made in early 1968 of the ordering of three 368-passenger Boeing 747 jetliners for delivery in 1971, to be used on transcontinental and transatlantic routes.

1.—Operating Statistics of Air Canada, 1957-66

Year	Traffic				Operating Revenue			Operating Expenses	Operating Profit
	Revenue Passenger ¹		Revenue Commodity ²	Mail	Passenger	Freight and Mail	Total ³		
	No.	'000 passenger-miles	'000 ton-miles	'000 ton-miles	\$'000	\$'000	\$'000	\$'000	\$'000
1957.....	2,392,713	1,385,777	15,478	9,855	86,524	16,055	104,996	103,500	1,496
1958.....	2,785,523	1,625,689	15,395	10,386	101,553	17,407	120,555	118,041	2,514
1959.....	3,209,197	1,828,902	17,753	10,905	114,339	18,293	134,679	132,265	2,413
1960.....	3,440,303	2,050,600	20,868	11,593	127,596	19,307	148,987	147,934	1,052
1961.....	3,712,068	2,481,122	24,091	11,934	143,301	19,466	165,436	163,292	2,144
1962.....	3,865,408	2,659,578	29,827	12,862	158,792	21,914	183,473	176,078	7,395
1963.....	3,966,547	2,887,239	35,781	13,859	167,653	24,088	199,390	188,122	11,268
1964.....	4,189,349	3,150,956	45,590	15,731	177,091	27,684	213,910	203,527	10,383
1965.....	4,753,395	3,715,635	61,662	17,287	209,926	31,839	250,126	237,401	12,725
1966.....	5,293,561	4,331,583	80,917	19,081	243,877	36,924	289,943	275,990	13,953

¹ Includes non-scheduled service.

² Includes excess baggage and express.

³ Includes other revenue.

Canadian Pacific Air Lines Limited.—CPA in 1966 operated a 57,346-mile route pattern linking five continents and major cities of Canada. This included 6,882 miles of Canadian routes, 2,444 miles of which were transcontinental service. In 1966 the airline carried 738,857 passengers, the largest number since the company's formation in 1942. Revenue passenger-miles showed a substantial gain to 1,280,008,232 from 1,144,936,000 in the previous year.

CPA's international routes, 50,464 miles in extent, operate from Vancouver to Honolulu, Fiji, New Zealand and Australia on the South Pacific Service; to Japan and Hong Kong via the Great Circle Route across the North Pacific; from Vancouver via Calgary and Edmonton to Amsterdam on the Polar Route, and across the Atlantic from

Toronto and Montreal to Holland, the Azores, Portugal, Spain and Italy. A South American network serves Mexico, Peru, Chile and Argentina from Montreal, Toronto and Windsor in Eastern Canada and from Vancouver and Calgary in the West. During 1966-67 two new routes were inaugurated—Toronto to Honolulu non-stop and a daily flight from Vancouver to San Francisco and return. Within Canada a transcontinental service links Vancouver, Winnipeg, Toronto and Montreal and a network of north-south routes serves British Columbia, the Yukon and western Alberta.

CPA's fleet consists of 17 aircraft—seven Douglas DC-8s, six Douglas DC-6Bs and three Douglas DC-3s. Four DC-8 series 63, called Spacemasters, are on order for delivery during 1968. These aircraft will carry 199 passengers in CPA's seat plan. Seven Boeing 737 short-medium jets are on order for late 1968 and early 1969 delivery and will replace piston-engined aircraft on domestic routes.

Independent Airlines.—In addition to the two major Canadian air carriers—Air Canada and Canadian Pacific Airlines Limited—there are four domestic air carriers licensed to operate scheduled commercial air services in Canada, namely, Eastern Provincial Airways (1963) Ltd., Gander, Nfld.; Quebecair, Rimouski, Que.; TransAir Limited, Winnipeg, Man.; and Pacific Western Airlines Ltd., Vancouver, B.C.

Licensed Canadian air carriers operating in Canada as at Mar. 31, 1967, held valid operating certificates covering 83 scheduled, 177 flying training, and 1,718 other non-scheduled and specialty services. These non-scheduled services, in addition to providing effective access to sections of Canada that are inaccessible by other means of transportation, act as feeder lines to the scheduled airlines. They also include such specialty services as recreational flying, aerial photography and surveying, aerial pest control, aerial advertising, aerial patrol and inspection.

Eastern Provincial Airways (1963) Ltd.—This company operates throughout the Atlantic Provinces, eastern Quebec and Labrador. It serves Charlottetown and Summerside in Prince Edward Island; Moncton and Dalhousie in New Brunswick; New Glasgow and Halifax in Nova Scotia; Deer Lake—Corner Brook, Gander, St. John's, St. Alban's and St. Anthony in Newfoundland; Goose Bay, Saglek, Wabush—Labrador City, and Twin Falls—Churchill Falls in Labrador; and Sept Îles and the Magdalen Islands in Quebec.

The Airways fleet consists of three Handley-Page Dart Heralds, one DC-4, four DC-3s, five PBY Cansos, seven DH Beavers and six DH Otters, one Beech Baron, two Super Cubs and two helicopters. The company carries on an extensive air freight service throughout the above areas and conducts many specialty services such as mineral exploration, 'package trips' (hunting and fishing), ambulance service and forestry, seal and ice patrol services.

Quebecair.—Quebecair, with head office at Rimouski, offers scheduled services in Quebec and Labrador. The company dates from 1946 and was founded under the name "Le Syndicat d'Aviation de Rimouski". In 1947 the name was changed to Rimouski Airlines and the company inaugurated an air transport service between the shores of the Gulf of St. Lawrence, linking Matane, Mont Joli, Rimouski, Forestville, Baie Comeau and Sept Îles. Until 1953 service was limited to towns and small centres located between Rimouski and Gaspé on the south shore of the St. Lawrence River and between Forestville and Sept Îles on the north shore. In 1953 with amalgamation of Gulf Aviation the name "Quebecair" was adopted. With the expansion of mining and industrial activities, Quebecair extended its network to Quebec City and Schefferville in 1955, to Montreal in 1957, to Gagnon and Rivière du Loup in 1959, to Wabush in 1960, to Manicouagan and Saguenay in 1961 and to Murray Bay in 1962. During 1965, Quebecair acquired Matane Air Services Ltd., Northern Wings Ltd., Northern Wings Helicopters Ltd., and merged its scheduled services with those of its two subsidiaries Northern Wings Ltd. and Matane Air Services Ltd.

Quebecair is primarily responsible for the operation of scheduled service by large aircraft; the subsidiaries handle flights by light aircraft, charter and contract services. Scheduled services are operated over 4,000 unduplicated miles and some 30 localities situated in nine economic regions of Quebec and Labrador are served on a daily basis. Points linked are: Montreal, Quebec, Murray Bay (Charlevoix), Rivière du Loup, Rimouski, Mont Joli, Matane, Saguenay, Forestville, Baie Comeau (Hauterive), Manicouagan, Sept Îles, Gagnon, Wabush (Labrador City), Schefferville, Rivière au Tonnerre, Mingan, Havre St. Pierre, Port Menier, Gaspé, Baie Johan Beetz, Aguanish, Natashquan, Kegashka, Gethsémani, Harrington Harbour, Tête-à-la-Baleine, La Tabatière, St. Augustin, Old Fort Bay, St. Paul and Blanc Sablon.

At the end of 1966, the combined fleet of Quebecair and subsidiaries totalled 33 aircraft: four turbo-prop Fairchild F-27s, nine DC-3s, two Canso PBYS, one Curtiss C-46, three Lockheed 10s, one Beechcraft D-18, two Otter, four Beaver, two Cessna 185 and five Bell Helicopters 47-G-2. During that year, Quebecair and subsidiaries carried 180,698 passengers and flew 122,767 mail-ton-miles and 706,436 freight-ton-miles.

TransAir Limited.—TransAir Limited, with headquarters at the Winnipeg International Airport, operates scheduled services in Manitoba, Saskatchewan, Ontario and the Northwest Territories and charter flights throughout Canada and to points around the world. The company's scheduled mainline services are operated in three areas: (1) The Prairies—from Winnipeg to Brandon-Regina-Saskatoon-Prince Albert and return, and from Winnipeg to Dauphin-Yorkton and return; (2) Manitoba and Central—from Winnipeg to The Pas-Thompson-Churchill and return, from Winnipeg to The Pas-Flin Flon-Lynn Lake and return, and from Winnipeg to Red Lake-Fort William/Port Arthur and return; and (3) Arctic—from Churchill to Rankin Inlet-Baker Lake and return and from Churchill to Rankin Inlet-Coral Harbour and return.

TransAir's fleet of multi-engine aircraft (DC-7C, Viscount, DC-4, DC-3 and C-47) is stationed at Winnipeg and at the company's major base at Churchill, Man. The DC-7C is used primarily on international and other long-range charter flights. Since 1961, under contract with the United States Air Force, TransAir has operated from Winnipeg and Churchill the vertical re-supply flights to the four main sites in the Canadian sector of the Distant Early Warning Line in the extreme Arctic and is regarded as the largest contract cargo carrier in Canada.

Consistent with the Canadian Transport Commission regional air-carrier policy, TransAir in 1967 sold its "bush" (primarily single-engine float and ski-equipped) aircraft, services and equipment in northwestern Ontario and Manitoba and hence has discontinued the network of flights it formerly operated from Sioux Lookout and Pickle Lake in Ontario, Norway House and Lac du Bonnet in Manitoba to points in adjacent areas. As a result, the company is now concentrating on its scheduled operations to larger centres. The company's routes are being studied in detail by the manufacturers of several turbo-prop and pure-jet aircraft and it is anticipated that modern aircraft of these types will be introduced in 1968. In 1966, TransAir carried 116,348 passengers, flew 3,562,836 miles and 6,158,594 revenue-ton-miles; employees numbered 341 and pilots 46.

Pacific Western Airlines Ltd.—Pacific Western Airlines Ltd., with head office at Vancouver International Airport, operates over more than 7,700 route miles; its services include scheduled mainline, local regular unit toll and charter flights in Saskatchewan, Alberta, Yukon Territory, the Northwest Territories including the Arctic islands, and British Columbia. Regularly scheduled mainline services are operated northbound from Edmonton to Dawson Creek, Peace River, McMurray, Uranium City, Fort Smith, Cambridge Bay, Fort Resolution, Hay River, Yellowknife, Fort Simpson, Wrigley, Norman Wells and Inuvik. The only no-reservations-required Airbus service in Canada operates daily between Edmonton and Calgary. The company also operates international charter services.

On the Pacific Coast, mainline services are operated from Vancouver to Comox, Powell River, Campbell River, Hudson's Hope and Port Hardy and local services are operated between Prince Rupert, Stewart, Ford's Cove, Anyox, Maple Bay and Alice Arm in northern British Columbia. In addition, local charter services are operated out of Prince George, Prince Rupert and Stewart and large aircraft charter services are operated from major centres.

Aircraft operated by Pacific Western number 30 and include Lockheed Hercules (freight), DC-7Cs, DC-6Bs, DC-6s, Convair 640 Javelin jet-props, and DC-4s on mainline and charter services; Otters, Beavers, Grumman Goose and Cessna aircraft are used on local charter services. Boeing 707 and Boeing 737 jet aircraft are on order for 1968 delivery. In 1966, 339,525 revenue passengers were carried, 27,998,405 lb. of freight and express were carried and 5,695,180 miles were flown.

Commonwealth and Foreign Scheduled Commercial Air Services.—At the end of 1967, there were 26 Commonwealth and foreign air carriers holding valid Canadian operating certificates and licences issued for the following international scheduled commercial air services into Canada:—

- Aeronautes de Mexico, S.A.*, operating between Montreal and Toronto (Canada) and Mexico City (Mexico).
- Aeroflot*, operating between Moscow (U.S.S.R.) and Montreal (Canada).
- Air France (Compagnie Nationale Air France)*, operating between Paris (France) and Montreal (Canada) and beyond to Chicago (U.S.A.) with traffic rights, and to other points beyond in transit.
- Alaska Coastal Airlines*, operating between Ketchikan (U.S.A.) and Prince Rupert (Canada).
- Alitalia (Italian International Airlines)*, operating between Rome and Milan (Italy) and Montreal (Canada) and beyond to Chicago (U.S.A.) with traffic rights, and to other points beyond in transit.
- Allegheny Airlines Inc.*, operating between Erie (U.S.A.) and Toronto (Canada).
- American Airlines Inc.*, operating between Toronto (Canada) and New York/Newark (U.S.A.) and between Chicago (U.S.A.) and Toronto (Canada) and between Los Angeles (U.S.A.) and Toronto (Canada).
- British Overseas Airways Corp.*, operating between London and Manchester (England), Prestwick (Scotland) and Montreal and Toronto (Canada), beyond Montreal with traffic rights to Chicago and beyond in transit to Boston, New York and Detroit (U.S.A.), and between London (England), Prestwick (Scotland), Gander (Canada), Bermuda, Nassau, Montego Bay, Barbados and Trinidad.
- Deutsche Lufthansa Aktiengesellschaft (Lufthansa German Airlines)*, operating between Germany and Montreal (Canada) and beyond in transit to Los Angeles (U.S.A.) and Mexico City.
- Eastern Air Lines, Inc.*, operating between the terminals Ottawa and Montreal (Canada), and New York (U.S.A.), and between the terminals Ottawa and Montreal (Canada) and Washington (U.S.A.), and between Tampa/Miami (U.S.A.) and Toronto (Canada) and between Buffalo (U.S.A.) and Toronto (Canada).
- Irish International Airlines (Aerlínte Éireann Teoranta)*, operating between Shannon (Ireland) and Montreal (Canada) and beyond in transit to Chicago (U.S.A.).
- KLM Royal Dutch Airlines*, operating between Amsterdam (Netherlands) and Montreal (Canada) and beyond in transit to Houston (U.S.A.), and for cargo to New York.
- Mohawk Airlines, Inc.*, operating between Toronto (Canada) and Buffalo (U.S.A.) and Rochester (U.S.A.) and Toronto (Canada) and between Burlington (U.S.A.) and Montreal (Canada); (the service to both Rochester and Burlington terminates October 1969).
- North Central Airlines, Inc.*, operating between Port Arthur/Fort William (Canada) and Duluth/Superior (U.S.A.) and between Detroit (U.S.A.) and Toronto (Canada).
- Northeast Airlines, Inc.*, operating between Montreal (Canada) and Boston (U.S.A.) via Concord, Montpelier-Barre, Burlington and White River Junction (U.S.A.) and between Tampa/Miami (U.S.A.) and Montreal (Canada).
- Northwest Airlines, Inc.*, operating between Minneapolis (U.S.A.) and Winnipeg (Canada).

Pan American World Airways Inc., operating between New York and Boston (U.S.A.), Gander (Canada), Shannon (Ireland) and London (England).

Qantas Empire Airways Ltd., operating between Sydney (Australia), San Francisco (U.S.A.) and Vancouver (Canada).

Sabena Belgian World Airlines, operating between Brussels (Belgium), and Montreal (Canada) and beyond in transit to New York (U.S.A.) and Mexico City.

Scandinavian Airlines System, operating between Stockholm (Sweden), Oslo (Norway), Copenhagen (Denmark), and Montreal (Canada), and beyond in transit to New York and Chicago (U.S.A.).

Seaboard and Western Airlines, Inc., operating between points in the United States, Gander (Canada) and points in Europe.

Swiss Air Transport Company Ltd., (*Swissair*), operating between Zurich and Geneva (Switzerland) and Montreal (Canada) and beyond in transit to Chicago (U.S.A.).

United Air Lines, Inc., operating between Vancouver (Canada) and Seattle (U.S.A.) and between Chicago (U.S.A.) and Toronto (Canada).

West Coast Airlines, Inc., operating between Calgary (Canada) and Spokane (U.S.A.).

Western Air Lines, Inc., operating between Calgary (Canada) and Great Falls/Denver (U.S.A.) and between Los Angeles/San Francisco (U.S.A.) and Vancouver (Canada).

Wien-Alaska Airlines Inc., operating between Whitehorse, Y.T. (Canada) and Fairbanks and Juneau (Alaska, U.S.A.).

Flying Schools and Clubs.—At the end of 1966, 80 commercial flying schools were registered as members of the Air Transport Association of Canada. During the year, these schools instructed and graduated 2,286 students as private pilots and 840 students as commercial pilots.

Membership in 37 flying clubs connected with the Royal Canadian Flying Clubs Association numbered 9,495 at the end of 1966. During the year these clubs instructed and graduated 1,466 students as private pilots and 262 students as commercial pilots.

Weather Services.*—Weather services are provided by the Meteorological Branch of the Department of Transport to meet the requirements of the general public and all basic economic endeavours such as agriculture, industry, forestry, shipping and fishing. Meteorological service is provided to national and international aviation. The military meteorological requirements in Canada and overseas are met by special co-operative arrangements with the Department of National Defence. The observing and forecasting of ice conditions in navigable waters, both inland and coastal, have expanded rapidly in recent years.

Canadian Weather Offices are linked by 59,100 miles of teletype and radio-teletype circuits, and a national facsimile system 15,900 miles long is used for the distribution of meteorological information in chart form. As of Jan. 1, 1967, the Branch maintained 289 surface synoptic and hourly weather reporting stations, at 33 of which upper air observations are taken, and 2,399 climatological stations, making a total of 2,432 weather reporting stations. One Ocean Weather Station in the Pacific, 1,000 miles west of Vancouver, is maintained under International Agreement.

Ground Facilities.—Aircraft landing areas in Canada are listed in Table 2 and classified by administrative agency as licensed or unlicensed land facilities or seaplane bases, and military airfields. Licensed aerodromes are those that are inspected at regular intervals and meet specific standards, whereas unlicensed aerodromes may not meet the same standards. In addition to aerodromes, a network of radio aids to navigation is maintained to facilitate en route navigation and safe landings under instrument conditions. (See item on Aeronautical Navigation, p. 876.)

* See also pp. 63-64.

**2.—Aircraft Landing Areas classified by Type of Facility and Operator, by Province,
as at Apr. 1, 1967**

Type of Facility and Operator	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Y.T.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Licensed Airports (Land)—													
Department of Transport.....	3	1	3	2	9	13	4	4	5	22	13	3	87
Municipal.....	3	—	1	5	25	21	7	16	23	19	—	3	123
Private.....	3	1	1	4	30	40	5	10	16	3	1	—	114
Heliports—													
Department of Transport....	—	—	1	1	—	—	—	—	—	—	—	—	2
Private.....	—	—	—	—	4	9	1	—	—	9	1	1	25
Unlicensed Aerodromes—													
Department of Transport.....	2	—	—	—	1	5	1	1	—	8	5	5	28
Municipal.....	3	—	2	2	7	7	4	28	49	16	2	4	124
Private.....	2	—	3	10	19	22	33	104	38	73	16	2	322
Abandoned or unknown.....	5	—	—	—	12	16	2	8	1	26	—	—	70
Heliports.....	—	—	—	—	—	2	—	—	—	5	—	—	7
Licensed Seaplane Bases—													
Department of Transport.....	—	—	—	—	—	—	—	—	—	3	1	—	4
Municipal.....	—	—	1	—	1	14	2	1	1	10	—	2	32
Private.....	5	—	3	—	66	99	44	25	3	56	29	4	334
Unlicensed Seaplane Bases—													
Department of Transport.....	—	—	—	—	1	—	—	—	—	15	—	—	16
Municipal.....	—	—	—	—	—	15	3	2	1	10	—	2	33
Private.....	9	—	—	2	20	16	7	6	4	22	6	—	92
Abandoned or unknown.....	17	1	3	4	18	13	12	9	8	16	14	4	119
Military Airfields—													
RCAF.....	2	1	1	2	3	8	4	1	3	3	4	—	32
Army.....	—	—	—	1	—	1	1	—	2	—	—	—	5
RCN.....	—	—	3	—	—	—	—	—	—	—	—	—	3
U.S. Navy.....	1	—	—	—	—	—	—	—	—	—	1	—	2
U.S. Air Force.....	—	—	—	—	—	—	—	—	—	—	17	2	19
Totals, Land Bases.....	21	2	11	24	107	140	57	171	132	181	38	18	902
Totals, Seaplane Bases.....	31	1	7	6	106	157	68	43	17	132	50	12	630
Totals, Military Airfields...	3	1	4	3	3	9	5	1	5	3	22	2	61
Grand Totals.....	55	4	22	33	216	306	130	215	154	216	110	32	1,593

Air Traffic Control.—The primary functions of the Air Traffic Control Division of the Department of Transport are to expedite and maintain an orderly flow of air traffic and to prevent collision between aircraft operating within controlled airspace and between aircraft and obstructions on the movement area of controlled airports. This is accomplished through airport control, terminal control and area control services. These and other allied services are described below.

Airport Control Service provides control service to flights operating in the vicinity of major civil airports where the volume and type of aircraft operations, weather conditions and other factors indicate its need in the interest of flight safety. The service also includes the control of all traffic on the manoeuvring area of the airport. Control is effected by means of direct radiotelephone communication or visual signals. Airport control towers are located at: Whitehorse, Y.T.; Fort St. John, Prince George, Victoria (international), Port Hardy, Abbotsford, Vancouver (international), Pitt Meadows and Kamloops, B.C.; Lethbridge, Calgary, Edmonton (industrial) and Edmonton (international), Alta.; Saskatoon and Regina, Sask.; Winnipeg (international) and St. Andrews, Man.; Lakehead, Windsor, London, Toronto Island, Toronto (international), Buttonville, Ottawa (international), and North Bay, Ont.; Montreal (international), Cartierville, Quebec, Baie Comeau and Sept îles, Que.; Moncton, Fredericton and Saint John, N.B.; Halifax (international), and Sydney, N.S.; and Gander (international) and St. John's, Nfld. Airport control service was instituted at St. Jean, Que., for Expo 67. Airport control service is provided at Resolute Bay, N.W.T., for a three-month period each year.

Area Control Service provides control service to en route flights operating within controlled airspace during weather conditions that prevent a pilot from seeing other aircraft or obstructions and necessitate his reliance on instruments to conduct the flight. Area control centres are located at Vancouver, B.C., Edmonton, Alta., Winnipeg, Man., Toronto, Ont., Montreal, Que., Moncton, N.B., Goose Bay and Gander, Nfld. Each centre is connected with control towers, terminal control units, communications stations and operation offices within its area by means of an extensive system of local and long-line interphone or radio circuits, and through radio communications facilities available at these stations to all aircraft requiring area control service. Area control centres are also capable of communicating directly with most pilots flying within their control areas. Each area control centre is similarly connected with adjacent centres, including centres in the United States, for the purpose of co-ordinating control of aircraft operating through more than one control area. This communications system permits each centre to maintain a continuous detailed record of all aircraft operating in accordance with the Instrument Flight Rules (IFR) and a general record of aircraft operating in accordance with the Visual Flight Rules within its control area. In addition to providing area control service to aircraft operating within controlled airspace over Newfoundland, the Gander Control Centre provides control service within the airspace over approximately one half of the North Atlantic Ocean.

Terminal Control Service consists of the provision of separation to aircraft operating in accordance with IFR in the vicinity of all controlled airports. This service is normally provided by area control centres but separate terminal control units have been established at Calgary, Alta.; Saskatoon and Regina, Sask.; Lakehead, North Bay and Ottawa, Ont.; Quebec, Que.; and Halifax, N.S.

Northern Area Control Service, inaugurated Sept. 26, 1963, is provided by the Edmonton, Winnipeg, Moncton and Goose area control centres for aircraft flying above 23,000 feet, and is available throughout more than 3,000,000 sq. miles of Northern Canada.

Radar Control Service is provided extensively in the control of IFR traffic, both in terminal areas and while en route. Terminal service is provided at Vancouver, B.C.; Calgary and Edmonton, Alta.; Regina and Saskatoon, Sask.; Winnipeg, Man.; Lakehead, Toronto, North Bay and Ottawa, Ont.; Montreal and Quebec, Que.; Moncton, N.B.; Halifax, N.S.; and Gander, Nfld. En route service is provided by area control centres and by one radar unit located at Kenora, Ont. Ground Control Approach Service is provided at Gander, Nfld. and Precision Approach Radar Service is provided at St. John's, Nfld.; Halifax, N.S.; Montreal, Que.; Toronto, Ont.; Winnipeg, Man.; and Vancouver, B.C.

Flight Information Service is provided by all air traffic control units, but particularly by all area control centres. It consists of advice and information useful for the safe and efficient conduct of flight, including weather reports and forecasts, field condition reports, data concerning aids to navigation, traffic information, refueling and transportation facilities, and other data of assistance to the pilot in planning or conducting a flight.

Alerting Service ensures that appropriate organizations are notified of aircraft that may be in need of search and rescue aid. This entails the maintenance and constant supervision of a continuous record of active flights to ensure that failure of an aircraft to arrive at the planned destination notified to air traffic control is detected immediately. The service is available to any pilot who files either a flight plan or flight notification with air traffic control.

Customs Notification Service facilitates the routine notification of the appropriate customs agency by pilots who plan to cross the Canada-United States boundary at certain designated customs airports. This is achieved through the prompt notification by air traffic control, at a pilot's request, of the customs officer at the destination airport of the intended arrival and of the need for customs clearance.

Airspace Reservation Service provides reserved airspace for specified air operations within controlled airspace and information to other pilots concerning these reservations and military activity areas in controlled and uncontrolled airspace. The Airspace Reservation Co-ordination Office, located at Ottawa, is responsible for co-ordinating all airspace reservations in Canada and in the Gander and Vancouver Oceanic Control Areas.

Aircraft Movement Information Service is provided by area control centres to assist the Department of National Defence in establishing the identification of all aircraft operating within specified areas.

Airport Activity.—Canada's major civil airports were 23.4 p.c. busier during 1966 than in 1965. The 33 Department of Transport tower-controlled airports reporting for the whole year recorded 3,316,669 aircraft movements (landings, take-offs and simulated approaches) compared with 2,688,239 recorded for the same airports in 1965.

Itinerant movements (excluding purely local traffic) accounted for 40 p.c. of the total traffic and for the third consecutive year Montreal International Airport ranked first in this category. The five leaders were: Montreal International 125,756; Toronto International 119,493; Vancouver International 106,930; Winnipeg International 96,619; and Cartierville 92,540. In the five-year period 1962-66, inclusive, itinerant movements increased 46.9 p.c. from 898,556 to 1,320,417, most of the increase occurring in the past three years.

Toronto reported the greatest number of scheduled flights in 1966 with 72,446 movements. Montreal was second with 68,630, followed by Vancouver with 29,148, Winnipeg with 21,594 and Calgary with 17,966. Over the five-year period local movements showed an increase of 46.9 p.c. from 1,288,706 in 1962 to 1,892,615 in 1966.

For the fifth consecutive year, Cartierville was the busiest airport in total traffic with 329,890 movements including local traffic and simulated approaches (practice instrument runs without touching the runway). Winnipeg was second with 269,555 movements followed by Montreal with 237,947, Toronto Island with 228,252 and Calgary with 206,088.

Section 3.—Civil Aviation Operation Statistics

Table 3 provides a picture of commercial civil aviation in Canada for the years 1963-66. It shows data on miles and hours flown, traffic carried, fuel and oil consumed, employees, salaries and operating revenues and expenses, by type of service, for Canadian air carriers followed by summary statistics for all Canadian carriers and those foreign companies operating scheduled services in Canada. Figures for Canadian carriers include domestic and international operations, and figures for foreign companies cover miles and hours flown over Canadian territory only, and exclude passengers and goods in transit through Canada. Unit toll service refers to the transportation of passengers or goods at a toll per unit, whereas bulk service is the transportation of passengers or goods at a toll per mile or per hour for the entire aircraft. Other flying services comprise non-transportation services such as flying training, aerial photography and aerial patrol and inspection.

3.—Summary Statistics of Civil Aviation, 1963-66

Item	1963	1964	1965	1966 ^p
Canadian Carriers—				
Unit Toll Transportation (revenue traffic only)—				
Departures..... No.	254,762	245,594	270,488	300,164
Hours flown..... "	298,655	300,798	335,379	376,783
Miles flown..... "	75,746,629	76,404,782	86,331,027	100,153,972
Passengers carried..... "	4,864,855	5,197,579	5,939,267	6,737,425
Cargo and excess baggage..... lb.	99,063,335	117,497,668	147,004,678	181,254,830
Mail carried..... "	41,892,927	46,804,224	50,440,235	49,019,825
Passenger-miles..... No.	3,623,020,400	3,939,075,129	4,731,304,865	5,606,619,064
Cargo and excess baggage ton-miles..... "	53,618,163	69,038,182	88,228,205	111,563,285
Mail ton-miles..... "	17,530,240	18,952,877	21,772,396	24,844,304
Bulk Transportation (revenue traffic only)—				
Departures..... No.	234,685	252,834	281,088	320,771
Hours flown..... "	250,988	263,541	319,926	376,017
Miles flown..... "	26,818,278	27,046,832	30,903,936	34,899,847
Passengers carried..... "	562,489	584,509	631,182	724,261
Freight carried..... lb.	110,102,115	106,124,248	108,947,834	126,826,164
Passenger-miles..... No.	..	469,807,322	464,825,765	393,593,536
Goods ton-miles..... "	..	17,839,881	13,507,018	12,758,560
Other Flying Services (revenue traffic only)—				
Hours flown..... No.	80,930	97,169	126,469	187,634

3.—Summary Statistics of Civil Aviation, 1963-66—concluded

Item		1963	1964	1965	1966 ^p
Canadian Carriers, All Services—					
Revenue Traffic—					
Departures.....	No.	489,447	498,428	551,576	620,935
Hours flown.....	"	630,573	661,508	781,774	940,434
Miles flown.....	"	102,564,907	103,451,614	117,237,963	135,058,819
Passengers carried.....	"	5,427,344	5,782,088	6,570,449	7,461,687
Goods carried.....	lb.	251,053,427	270,426,140	306,392,747	357,100,819
Passenger-miles.....	No.	..	4,408,882,451	5,196,130,630	6,000,212,600
Goods ton-miles.....	"	..	105,830,940	123,507,619	149,166,149
Non-revenue Traffic—					
Hours flown.....	No.	21,738	21,363	29,898	42,691
Passenger-miles.....	"	203,399,987	207,986,297	224,745,710	254,032,603
Goods ton-miles.....	"	6,601,370	7,709,768	7,995,872	8,649,711
Fuel consumed.....	gal.	207,490,519	218,042,305	249,336,707	292,926,470
Oil consumed.....	"	405,999	343,128	395,347	457,607
Average employees.....	No.	17,577	17,795	19,007	21,440
Salaries and wages paid.....	\$	108,538,372	116,465,350	129,774,695	151,137,835
Operating revenues.....	\$	308,835,913	334,930,874	392,806,566	460,556,463
Operating expenses.....	\$	294,142,170	315,569,629	368,207,884	429,795,272
Canadian and Foreign Carriers, All Services—					
Hours flown.....	No.	646,956	679,784	801,129	963,067
Miles flown.....	"	108,282,021	110,138,322	124,448,003	143,589,016
Passengers carried.....	"	6,278,298	6,774,652	7,838,539	9,023,691
Goods carried.....	lb.	275,899,568	301,494,757	346,176,884	414,254,858

Summary statistics of Canadian and foreign commercial air carriers, by type of carrier, are shown in Table 4 for 1966. For the foreign carriers, hours and miles reported are those flown over Canadian territory only, and passengers and goods in transit through Canada are excluded. It is interesting to note that the six scheduled carriers—those holding Class I or Class II licences from the Canadian Transport Commission—accounted for 91 p.c. of all revenue passengers transported by Canadian carriers during 1966. The weight of goods transported by scheduled carriers amounted to approximately 69 p.c. of the total tonnage moved by all Canadian air carriers.

4.—Summary Statistics of Canadian and Foreign Commercial Air Carriers, 1966

Item	Canadian Carriers		Foreign Carriers		All Carriers
	Domestic Services	International Services	United States	Other Foreign	
Unit Toll Transportation (revenue traffic only)—					
Departures.....	No.	256,169	43,995	..	..
Hours flown.....	"	280,300	96,483	4,164	17,344
Miles flown.....	"	64,124,113	36,034,859	1,160,777	6,959,615
Passengers carried.....	"	4,735,146	2,002,279	1,050,885	475,179
Goods carried.....	lb.	162,130,437	68,144,218	19,098,467	37,978,389
Passenger-miles.....	No.	3,067,957,357	2,538,661,707	45,226,666	374,136,786
Goods ton-miles.....	"	80,788,711	55,618,878	441,231	13,633,653
Bulk Transportation (revenue traffic only)—					
Departures.....	No.	317,727	3,044	..	..
Hours flown.....	"	363,899	12,118	43	1,092
Miles flown.....	"	30,570,253	4,329,594	7,638	402,167
Passengers carried.....	"	607,779	116,483	3,497	32,443
Freight carried.....	lb.	125,854,859	971,305	—	77,193
Passenger-miles.....	No.	16,842,137	376,751,399	..	..
Goods ton-miles.....	"	11,855,825	902,735	..	..

5.—Expenditure and Revenue of the Department of Transport in connection with Air Services, Years Ended Mar. 31, 1964-66

Item	1964	1965	1966
	\$	\$	\$
Expenditure			
Air Transport Board	632,757	687,633	750,527
Air Services	5,756,339	6,194,861	6,781,431
General Administration.....	1,939,788	2,093,516	2,236,561
Construction Services Administration.....	3,816,551	4,101,345	4,544,870
Civil Aviation Branch	34,773,191	40,792,285	43,860,959
Control of Civil Aviation.....	5,137,669	6,671,301	6,256,202
Airports and other ground services—operation and maintenance...	20,280,882	24,113,701	26,449,205
Airway and airport traffic control—operation and maintenance...	8,717,594	9,423,017	9,708,714
Contributions to other governments or international agencies for the operation and maintenance of airports.....	234,921	272,509	246,798
Contributions to assist in the establishment or improvement of local airports and related facilities.....	126,855	35,556	855,122
Grants to organizations for development of civil aviation.....	272,526	275,294	344,918
Exchequer Court Awards.....	2,744	907	—
Telecommunications and Electronics Branch	23,014,265	24,886,691	28,108,926
Radio aids to air and marine navigation—administration, operation and maintenance.....	19,930,988	21,552,348	24,323,167
Radio Act and Regulations—administration, operation and maintenance.....	3,004,437	3,187,654	3,698,058
Northwest Communications Systems—deficit.....	69,678	—	—
Gift of furnishings to ITU.....	9,162	—	—
Payment to CNR <i>re</i> deficit telecommunications facilities.....	—	146,689	87,701
Meteorological Branch	18,461,452	19,496,627	21,800,358
Totals, Expenditure	82,638,604	92,058,097	101,302,201
Revenue and Receipts			
Air Services Administration	6,894	6,833	10,371
Construction Branch Administration	694	1,574	3,034
Civil Aviation Branch	17,189,574	22,743,960	24,128,891
Private air pilots' certificates.....	18,402	40,357	49,408
Airport licence fees.....	1,795	6,404	6,885
Aircraft registration and airworthiness certificates.....	14,506	83,662	94,666
Fines, Aeronautics Act.....	5,866	3,007	7,438
Land rental.....	536,420	622,936	699,685
Other rentals (living quarters, hangar space, equipment, restaurants and snack bars, etc.).....	2,437,895	3,362,672	3,503,251
Concessions (gasoline and oil, taxi, restaurant and snack bar, telephone, parking, car rentals, etc.).....	4,127,031	5,223,337	6,029,278
Aircraft landing fees.....	8,093,469	11,083,829	10,664,010
Aircraft parking and handling.....	120,462	141,959	168,853
Power services.....	255,717	247,320	438,288
Mess receipts.....	2,560	37,489	99,142
Telephone service.....	5,082	6,555	7,297
Observation roof—turnstiles.....	133,673	133,036	143,110
Hangar storage space and heating.....	74,380	102,563	156,548
Sanitary fees.....	30,916	86,166	32,412
Sales (water, land and buildings, parking meters, etc.).....	310,039	463,833	794,774
Gander Airport (coal sales, heating, electricity, etc.).....	37,874	40,737	—
Air route facilities fees.....	212,730	—	—
Joint user terminal facilities charge.....	340,776	539,520	619,871
Air Traffic Control Division.....	440	495	293
Sundry services and sundries.....	256,604	375,442	513,748
Refunds of previous years' expenditure.....	172,847	142,581	99,934
Telecommunications and Electronics Branch	3,848,166	4,709,219	4,718,413
Air-ground radio services.....	1,458,231	1,359,838	1,392,940
Communication facilities.....	2,093	3,093	—
Message tolls.....	305,114	316,592	328,873
Private commercial broadcasting station licence fees.....	975,200	1,720,285	1,634,622

5.—Expenditure and Revenue of the Department of Transport in connection with Air Services, Years Ended Mar. 31, 1964-66—concluded

Item	1964	1965	1966
	\$	\$	\$
Revenue and Receipts—concluded			
Telecommunications and Electronics Branch—concluded			
Radio operators' examination fees.....	5,399	5,273	5,974
Radio station licence fees.....	486,487	562,252	548,375
Rentals (living quarters, space control lines and power, etc.).....	533,219	514,879	510,915
Sales (land and buildings, power services, publications, etc.).....	32,722	60,635	129,149
Telephone and telegraph services and tolls.....	143	52,810	—
Miscellaneous.....	16,882	52,782	100,048
Refunds of previous years' expenditure.....	32,676	59,881	67,517
Meteorological Branch.....	222,168	263,001	284,586
Totals, Revenue and Receipts.....	21,267,496	27,724,587	29,145,295

Table 6 shows the number of civil air personnel and airport licences in force and the number of civil aircraft registered at the end of each of the years 1965 and 1966.

6.—Personnel and Airport Licences in Force and Aircraft Registered as at Dec. 31, 1965 and 1966

Item	1965	1966	Item	1965	1966
	No.	No.		No.	No.
Personnel Licences in Force—			Personnel Licences in Force—		
Pilot—			concluded		
Glider.....	823	917	Flight engineers.....	59	65
Private.....	16,831	18,710	Aircraft maintenance engineers..	2,369	2,539
Commercial.....	2,835	3,550	Airport Licences in Force.....	698	711
Senior commercial.....	359	405	Aircraft Registered—		
Airline transport.....	1,533	1,749	Commercial.....	2,137	2,329
Totals, Pilot Licences....	22,381	25,331	Private.....	5,205	5,778
Air navigators.....	128	171	State.....	200	203
Air traffic controllers.....	782	813	Totals, Aircraft Registered...	7,542	8,310

PART VI.—OIL AND GAS PIPELINES*

Oil Pipelines.—Since the late 1940s large capital expenditures have been made each year for oil pipeline construction. Expenditures in 1966 were an estimated \$78,600,000 and are forecast at \$55,000,000 for 1967, raising the estimated cumulative total for the period 1950-67 to \$764,000,000.

The prime components of the network of Canadian oil pipelines are the trunk lines of the Interprovincial Pipe Line Company and the Trans Mountain Oil Pipe Line Company. The bulk of domestic crude oil is carried in these lines. Refineries that do not rely on these systems are located in the oil producing regions such as Calgary and Edmonton. The Interprovincial system carries crude oil eastward from Edmonton, receiving and discharging oil at various locations along its length. The Trans Mountain system operates similarly westward from Edmonton. Supplying these two trunk lines are pipeline systems funnelling oil from hundreds of fields into storage tanks at the pipeline terminals. Some of

* Prepared in the Mineral Resources Division, Department of Energy, Mines and Resources, Ottawa.

these feeder lines are impressive in themselves not only in size of pipe and in length of route but in the volumes of oil that they transport. Most of the feeder lines are in Alberta, which is to be expected because of the pre-eminent position of that province in oil production. Two significant additions were made in 1966. A 266-mile, 16-inch pipeline was completed from the Great Canadian Oil Sands Limited project near Fort McMurray to Edmonton. Starting late in 1967, this line will carry the first shipments of synthetic crude oil recovered from the Athabasca 'Tar' sands at the rate of 45,000 bbl. daily. In northwestern Alberta, Rainbow Pipe Line Company, Ltd. completed the initial 235 miles of 20-inch pipeline from the important new Rainbow Lake producing area to the Mitsue Pipe Line at Utikuma Lake. Construction of an additional 184 miles of 24-inch line to connect with Interprovincial at Edmonton, and 59 miles of 20-inch line from Rainbow Lake north to the Zama Lake area, are scheduled for completion in the spring of 1967. Initial capacity of the line will be 50,000 bbl. daily, with ultimate capacity rated at 250,000 bbl. daily.

The main pipeline terminal at Edmonton has eight crude oil feeder lines, including the Interprovincial extension to Redwater but excluding the Rainbow line, as follows:—

<i>Pipeline</i>	<i>Length</i>	<i>Capacity</i>	<i>General Area of Supply Related to Edmonton</i>
	miles	bbl./day	
Britamco Pipe Line Co. Ltd.	410	60,000	south-southeast
Federated Pipe Lines Ltd.	517	151,000	northwest
Imperial Pipe Line Co. Ltd.	311	78,400	southwest
Interprovincial Pipe Line Co.	31	110,000	northeast
Pamco Ltd. (Edmonton Pipe Line Div.)	82	15,000	southeast
Peace River Oil Pipe Line Co. Ltd.	704	73,000	northwest
Pembina Pipe Line Ltd.	920	154,000	west-southwest
Texaco Exploration Company.	173	111,000	south

In addition, three pipelines are connected to the Interprovincial at Hardisty, some 100 miles southeast of Edmonton. Here, Gibson Associated Oil Ltd. makes deliveries of up to 15,000 bbl. daily of oil from fields just south of the pipeline terminal. Husky Pipe Line Ltd. takes deliveries of condensate and delivers a blended crude, incorporating the light condensate received and the heavy Lloydminster asphaltic crude. The Husky pipeline is a twin line system carrying the condensate to Lloydminster in one line and returning the blended oil in the other line, which has a capacity of 15,000 bbl. daily. The third pipeline connection, Bow River Pipe Line Ltd., carries crude from the most southerly oil fields in Alberta, near Taber; this line has a capacity of 18,000 bbl. daily. Home Oil Limited operates a pipeline serving refineries in the Calgary area with oil from fields north of the city; the line also has connections with the Rangeland pipeline which, in turn, is linked to the Texaco line going north to Edmonton. Also serving Calgary is the oldest pipeline in Alberta operated by Valley Pipe Line Company, which carries crude from the historically important Turner Valley in quantities up to 15,000 bbl. daily.

The Trans Mountain pipeline also has a second receiving terminal in Alberta at Edson where the Peace River pipeline makes deliveries to Trans Mountain from fields to the north. In British Columbia, the Western Pacific Products-Crude Oil Pipelines Ltd. carries crude over a distance of 500 miles from fields near Fort St. John in north-eastern British Columbia to the Trans Mountain pipeline at Kamloops; this line has a capacity of 45,000 bbl. daily.

Three main pipeline systems carry crude oil from Saskatchewan fields to the Interprovincial pipeline. The largest is the Westspur Pipe Line Company-Producers Pipelines Ltd. network which delivers crude from the important southeast Saskatchewan producing area across the Saskatchewan-Manitoba border to the Interprovincial terminal at Cromer. Capacity of this system to Cromer is 175,000 bbl. daily. The Westspur-Producers line also carries crude delivered to it by Trans-Prairie Pipelines Ltd. from fields in the Midale area of southeast Saskatchewan. In southwest Saskatchewan, the South Saskatchewan Pipe Line Company takes medium-gravity crude from fields near Swift Current to the Interprovincial pipeline at Regina; this pipeline has a capacity of 70,000 bbl. daily.

The third system is the mid-Saskatchewan pipeline of Royalite Oil Company. This pipeline has a capacity of 10,000 bbl. daily and carries crude oil from the Coleville-Dodsland area to the Interprovincial terminal at Kerrobert.

There is only one pipeline in Manitoba serving the producing fields in the general area of Virden. It carries crude to the Interprovincial terminal at Cromer and has a capacity of 23,000 bbl. daily.

Interprovincial Pipeline.—The system of Interprovincial Pipe Line Company is Canada's longest oil pipeline. It incorporates the wholly owned subsidiary in the United States, Lakehead Pipe Line Company Incorporated, and has a right-of-way length of 2,025 miles including a 95-mile lateral to Buffalo, New York. The system has two complete oil lines between Edmonton and Superior, Wisconsin, and in certain high-traffic sections, such as between Cromer and Gretna in Manitoba, there are three lines. The pipeline can deliver 15 grades of crude oil. Year-end capacities of the various sections of the pipeline are shown below for 1966 and for 1967.

Section	1966	1967
	bbl./day	bbl./day
Edmonton-Regina.....	383,000	516,000
Regina-Cromer.....	428,000	532,000
Cromer-Gretna.....	586,000	709,000
Gretna-Superior.....	548,000	664,000
Superior-Sarnia.....	442,000	563,000
Sarnia-Port Credit.....	229,000	280,000
Westover-Buffalo.....	45,000	76,000

Interprovincial serves 26 refineries: one at Lloydminster via the Husky pipeline; one at Saskatoon via Saskatoon pipeline from Mildred; one at Moose Jaw via B-A Saskatchewan pipeline from Stony Beach; two at Regina; one at Brandon via Anglo Canadian pipeline from Souris; two at Winnipeg via Winnipeg pipeline from Gretna, 11 in the United States either directly or through connecting carriers; three at Sarnia; two at Oakville; one at Clarkson; and one at Port Credit.

Trans Mountain Pipeline.—The system of Trans Mountain Oil Pipe Line Company extends from Edmonton to Vancouver via Jasper and has a right-of-way length of 780 miles, including a section of 57 miles in the United States which belongs to a wholly owned subsidiary of Trans Mountain. The capacity of the system is 250,000 bbl. daily. Trans Mountain serves eight refineries: one at Kamloops; four at Vancouver; and three in the Puget Sound region of Washington State. Under a recent contract with British American Oil Company Limited, facilities have been completed at the Vancouver terminal to handle storage and transfer of liquid propane from railway tank cars to refrigerated Japanese tankers. First loading under the ten-year contract was made in October 1966.

Montreal-Portland Pipeline.—The Montreal refinery centre is served by a 236-mile pipeline which is a joint system of Montreal Pipe Line Company and its wholly owned subsidiary in the United States, Portland Pipe Line Corporation. This line takes delivery of tanker-borne crude from Venezuela, the Middle East and Africa at Portland, Maine. In 1965, the company completed a 24-inch pipeline alongside the existing 18-inch and 24-inch crude oil lines. This provides a very flexible system which can deliver, under existing horsepower, 356,000 bbl. daily to the six refineries at Montreal.

Product Pipelines.—Traditionally, a product pipeline carries refined products from oil refineries to truck terminals in large consuming centres. However, with the growth of natural gas processing in Canada, which results in large volumes of products such as propane, butane and pentanes plus being produced, a new type of product line has emerged which carries these products to markets or to refineries.

There are three product lines in Eastern Canada, all supplying markets in Ontario with refined petroleum products. Two pipelines, Sun-Canadian Pipe Line Company and Sarnia Products Pipe Line, run from refineries at Sarnia to bulk plants in London, Hamilton

and Toronto. Trans Northern Pipe Line Company, once a pipeline carrying products from Montreal to markets in Ontario as far west as Hamilton, now has a two-way flow. Products from Montreal are now delivered only in the area east of Brockville, including the Ottawa valley; products from refineries west of Toronto are carried eastward as far as Kingston.

In Western Canada, the recently constructed Petroleum Transmission Company pipeline carries propane, butane and pentanes plus from a plant at Empress in Alberta to Winnipeg in Manitoba, a distance of 578 miles. The predominant product carried is propane which is also marketed at various locations along the line. Elsewhere in Alberta, the Rimbey Pipe Line Company transports condensate from the Rimbey gas plant and takes deliveries from the Rangeland condensate pipeline to serve areas north of Calgary as far as Edmonton. Also going to Edmonton are three separate pipelines, one each for propane, butane and pentanes plus, running from the Leduc conservation gas plant. Near Calgary, Home Oil Company operates a condensate pipeline to serve refineries there and also to make deliveries to the Rangeland condensate pipeline. There are other condensate pipelines in Alberta, most of which are associated primarily with production and do not serve end users. During 1966, the Rangeland Pipeline Division of Hudson Bay Oil and Gas Company Limited laid a 191-mile, 12-inch condensate pipeline in western Alberta from Sundre to Pincher Creek, to tie in with the existing system that connects to pipelines in the United States.

Pipeline Tariffs.—Typical of the charges to move crude oil are the following pipeline tariffs:—

	<i>Charge</i>	<i>Distance</i>
	cts. per bbl.	miles
Edmonton to Vancouver.....	40.0	718
Edmonton to Regina.....	20.7	438
Edmonton to Winnipeg.....	30.2	847
Edmonton to Sarnia.....	48.0	1,743
Edmonton to Port Credit.....	51.0	1,899
Portland to Montreal.....	10.5	236

Natural Gas Pipelines.—Natural gas now accounts for 17 p.c. of Canada's energy requirements and, in addition, large volumes are delivered to markets in the United States. Although relatively small amounts of natural gas are transported in other areas of the world as a liquid under refrigeration, all of the gas used in Canada as well as in North America as a whole is moved by pipeline. Despite the current importance of natural gas, major gas pipelines were established in Canada only in recent years and it was not until 1958 that natural gas was used in provinces as far east as Quebec. Now, however, there is an extensive network of pipelines serving most centres of population from Vancouver to Montreal and delivering gas to several points of export on the United States border.

Since the mid-1950s when large-volume gas removal was authorized from Alberta, capital expenditures in gas pipeline construction have constituted a significant proportion of the country's total outlay for transportation facilities. In 1966, capital expenditures of \$74,700,000 were made, and forecast expenditures for 1967 amount to \$112,000,000. Thus, it is estimated that cumulative total expenditures for the period 1955-67 will amount to \$1,367,000 for gathering and transmission systems, with an additional \$880,000 for distribution systems.

Pipelines are usually categorized under three headings—gathering lines, transmission lines and distribution lines. The gathering lines are those that take gas from the wells or separators to the field gate or some other specified point. Transmission lines are normally the large-diameter pipelines that take gas from gathering lines and deliver it to the distributors principally at the 'city gate'. In total, there were 45,250 miles of all types of gas pipeline in operation at the end of 1966, of which 5,100 miles were gathering, 14,600 miles were transmission and 25,550 miles were distribution.

Unlike oil pipeline companies which are common carriers that transport oil for a fixed charge, gas pipeline companies, with few exceptions, own the gas that is transported. The principal exception is the Alberta Gas Trunk Line Company which delivers virtually all of the gas exported from Alberta to the provincial boundary where main transmission companies accept delivery. This is an important exception because most of the Canadian gas reserves are in Alberta. The right-of-way distance of Alberta Gas Trunk is 1,788 miles.

Some details of the main transmission systems are contained in the following paragraphs. Like oil pipelines, there are two trunk lines serving Canada. One is the Trans-Canada pipeline and the other is the Westcoast pipeline.

Trans-Canada Pipeline.—The Trans-Canada pipeline, extending from the Alberta border near Burstall, Sask., makes its way eastward through Saskatchewan and Manitoba to the Ontario Lakehead cities of Port Arthur and Fort William and then follows a broad, northerly-arched route through the clay belt of Ontario, then southward via North Bay to Toronto. There the line divides, one part going to the western region of Ontario and the other eastward along the northern shore of Lake Ontario and the St. Lawrence River to Montreal. Lateral pipelines serve communities that are not within the immediate reach of the main pipeline. Trans-Canada is Canada's longest pipeline, with a right-of-way distance of 2,462 miles. The maximum amount of gas delivered in any one day by the company in 1966 was 1,356,000 Mcf. Export sales average about 221,000 Mcf. daily.

In August 1966, the company received Federal Government approval to construct a major transmission line, jointly with an American company, across the United States from Emerson, Man., to Sarnia, Ont., after giving certain guarantees regarding the future expansion of its Canadian system. At the end of 1966, the project was awaiting approval of United States regulatory authorities. The company completed looping of its main line from the Alberta-Saskatchewan border to Winnipeg in 1966.

Westcoast Transmission Company.—The supply of gas for Westcoast comes mainly from fields in northeastern British Columbia but significant quantities are gathered in northwestern Alberta. The main line from Fort St. John runs in a southerly direction to Vancouver and to the United States border at Sumas, B.C. An extension to its system from the Fort St. John area to the Fort Nelson area permits the pipeline system to pick up gas from the main areas stretching from Dawson Creek to the Yukon-Northwest Territories border. The right-of-way distance of the Westcoast system is 892 miles.

Alberta Natural Gas Company.—Although the Alberta Natural Gas pipeline is only 107 miles long, it forms part of one of the major gas export pipelines that carries Canadian gas as far south as California. The line extends from the Alberta border through the Crowsnest Pass to Kingsgate, B.C., where it crosses the International Border and continues through Idaho.

Other Gas Pipelines.—There are many other natural gas pipelines operating in Canada. Many are gathering systems and others are exclusively distribution systems. They constitute important sectors of the country's gas pipeline industry, as is evidenced by their aggregate pipeline mileage. To mention a few, Canadian Montana pipeline gathers gas in the southeastern part of Alberta and transports it southward into the State of Montana; the company also operates a line that purchases gas from Alberta Gas Trunk Lines in the southwestern part of the province. In Saskatchewan, the system of the Saskatchewan Power Corporation has gathering, transmission and distribution systems and delivers all of the gas for sale in Saskatchewan; the Corporation had 4,966 miles of pipeline in operation at the end of 1966. Three other systems have gathering, transmission and distribution systems: in Alberta, Canadian Western Natural Gas Company Limited operates in the southern portion of Alberta and Northwestern Utilities in the northern area, the combined length of pipe being 5,243 miles; Union Gas operates mainly in southwestern Ontario, picking up gas from some fields that are the oldest in Canada. These and many other systems make up the fast-growing network of gas pipelines in Canada which serves domestic, commercial and industrial customers in all provinces except the Maritimes.

Oil Pipeline Statistics.*—There were 42 oil pipeline companies operating in Canada at the end of 1965. Pipeline deliveries shown in Table 1 were made to non-pipeline carriers, foreign pipelines, and terminals including refineries and distributing centres.

1.—Pipeline Movements of Oil, 1963-66

Item	1963	1964	1965	1966
	bbl.	bbl.	bbl.	bbl.
Receipts				
Crude Oil and Pentanes Plus—				
Canadian.....	274,030,166	297,792,525	315,420,522	344,853,598
Imports.....	93,559,497	94,230,399	92,234,607	112,389,899
Liquefied Petroleum Gases and Products—				
Canadian.....	63,050,700	67,285,979	75,597,987	78,509,586
Imports.....	441,095	544,040	364,579	406,824
Totals, Net Receipts.....	431,081,458	459,852,943	483,617,695	536,159,907
Deliveries				
Crude Oil and Pentanes Plus—				
Canadian.....	273,784,220	290,207,682	297,407,824	329,186,093
Exports.....	90,248,379	101,532,615	107,651,950	126,591,959
Liquefied Petroleum Gases and Products—				
Canadian.....	62,414,709	64,803,049	73,188,316	75,035,182
Exports.....	1,034,308	2,712,817	2,679,069	3,169,153
Totals, Net Deliveries.....	427,481,616	459,256,163	480,927,159	533,982,387

Revenue and employee data shown in Table 2 are not complete; both revenue and employee figures have been omitted for some companies, since pipeline operation forms only a part of the activities of these establishments and the data are not separable.

* Statistics of oil pipelines are given in greater detail in the DBS monthly report *Oil Pipe Line Transport* (Catalogue No. 55-001).

2.—Operating and Financial Statistics of Oil Pipelines, 1963-66

Item	1963	1964	1965	1966
Pipeline Mileage—				
Trunk lines..... No.	6,926	7,952	8,259	8,681
Gathering lines..... "	3,681	3,792	4,056	4,314
Daily Av. of Net Deliveries—				
Trunk lines..... bbl.	1,164,640	1,240,007	1,314,842	1,455,059
Gathering lines..... "	696,229	737,118	787,050	881,537
Barrel Miles—				
Trunk lines..... '000	175,492,600	191,241,600	203,999,419	228,125,498
Av. Miles per Barrel—				
Trunk lines..... No.	410	416	425	429
Property account..... \$	582,515,772	617,758,245	654,023,499	723,038,574
Long-term debt..... \$	298,791,748	291,144,511	299,200,374	344,162,634
Operating revenues..... \$	128,635,447	138,478,844	145,809,378	160,180,880
Operating expenses..... \$	30,436,544	32,118,605	34,498,816	38,139,905
Net income (after income tax)..... \$	39,318,153	45,997,272	55,521,157	55,593,017
Av. employees..... No.	1,501	1,492	1,542	..
Salaries and wages..... \$	10,323,846	10,665,313	10,929,026	..

Gas Pipeline Statistics.—As already stated, the natural gas transport industry became a significant factor in the Canadian economy in 1957 with the completion of the first of several extensive pipelines constructed to transport natural gas from the field or processing plant to distribution outlets. Consequently, the distribution industry also greatly increased deliveries to consumers from that time. Tables 3 and 4 illustrate this expansion for the years 1963-66.

3.—Receipts and Disposition by Natural Gas Utilities, 1963-66

Item	1963	1964	1965	1966
	Mcf.	Mcf.	Mcf.	Mcf.
Receipts				
Transport system.....	638,295,918	727,827,360	811,971,836 ^r	858,625,620
Distribution systems.....	208,554,958	216,418,402	216,851,102	250,714,285
Imports.....	6,823,374	9,641,684	17,745,771	44,606,905
Other.....	257,398	333,127	369,186	22,397
Totals, Net Receipts.....	853,931,648	954,220,573	1,046,937,895^r	1,153,969,207
From storage.....	27,629,780	27,179,191	34,747,749	35,182,350
Totals, Supply.....	881,561,428	981,399,764	1,081,685,644^r	1,189,151,557
Disposition				
Sales to ultimate consumers.....	451,598,298	504,503,388	573,016,223	635,514,622
Exports.....	359,606,260	392,239,429	404,709,025	431,818,191
Other.....	833,466	2,701,725	2,457,815	2,781,338
Totals, Net Deliveries.....	812,038,024	899,444,542	980,183,063	1,070,114,151
To storage.....	35,960,581	35,515,628	46,168,826	54,793,518
Line pack fluctuation.....	403,645	683,907	550,307	366,229
Gas used in system.....	21,195,062	30,126,023	45,077,034	50,853,672
Line losses and unaccounted amounts.....	11,964,116	15,629,664	9,706,414 ^r	13,523,987
Totals, Demand.....	881,561,428	981,399,764	1,081,685,644^r	1,189,151,557

4.—Operating Statistics of Natural Gas Utilities, 1963-66

Item	1963	1964	1965	1966
Daily average sendout..... Mcf.	2,323,284	2,560,920	3,309,993 ^r	3,685,753
Operating revenues..... \$	396,536,151	437,885,637	..	..
Salaries and wages..... \$	57,726,901	59,995,223	..	..
Average annual earnings per employee..... \$	5,288	5,511	..	..

CHAPTER XX.—COMMUNICATIONS

CONSPECTUS

	PAGE		PAGE
SECTION 1. TELECOMMUNICATIONS.....	862	Subsection 5. Public and Private Commercial Microwave Facilities.....	877
Subsection 1. Government Control over Telecommunications Agencies.....	868	Subsection 6. Miscellaneous Radio Communication Services.....	878
Subsection 2. Telephone and Telegraph Statistics.....	868	Subsection 7. Radio and Television Broadcasting.....	878
Subsection 3. Overseas Telecommunications Services.....	871	SECTION 2. POSTAL SERVICE.....	887
Subsection 4. Federal Government Civil Telecommunications and Electronics Services.....	873	SECTION 3. THE PRESS.....	899

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Section 1.—Telecommunications*

Communications media in Canada have been shaped to meet the needs of the country. Great networks of telephone, telegraph, radio and television facilities, inextricably bound together, provide adequate and efficient service which, in this era of electronic advancement, is under continual technological change and development. The familiar challenges of the country—its size, its topography, its climate, its small population—which have reared their heads in other areas of development, have had to be faced as well in the field of communications. That these have been met is evidenced by the fact that today Canada possesses communication facilities and services which are second to none in the world and which are somewhat unique in structure. On the one hand there is a group of telephone companies acting in concert to provide national services and on the other there are two railway companies providing services, each of which is national in scope. These companies provide a most comprehensive total communications network and almost all Canadians from the Arctic Coast to the 49th parallel and from St. John's in Newfoundland to Vancouver in British Columbia can communicate with each other and with the rest of the world by the simple action of twisting a dial or pushing a button. Messages are carried by microwave, tropospheric scatterwave systems, land lines and high frequency radio bands. The great advance in telecommunications during the past few years indicates that machine-to-machine communications will, within a very short time, surpass the volume of man-to-man communications. The use of computers is becoming more and more commonplace and the ability to transmit computer data from one location to any distant location across the country is a tremendous boon to industry and commerce and a benefit to every Canadian.

Public Telephone Service.—Telephone service, local and long-distance, is provided by telecommunications companies serving a total of 8,000,000 telephones across Canada. The largest serving organization is the Trans-Canada Telephone System comprising eight

* A special article on The Development of Telecommunications in Canada, prepared by M. E. Callin, P. Eng. of the Northern Electric Company Limited, Montreal, appears in the 1967 Year Book, pp. 862-869; the present Section deals with telecommunications in Canada today and was prepared by W. M. Lawson of CN Telecommunications Toronto.

telephone companies, either privately or publicly owned—the Alberta Government Telephones, the British Columbia Telephone Company, the Manitoba Telephone System, the Maritime Telegraph and Telephone Company Limited, the Saskatchewan Government Telephones, the Avalon Telephone Company Limited, the Bell Telephone Company Limited, and the New Brunswick Telephone Company Limited. In addition, there are nearly 2,000 independent telephone companies providing private service in smaller communities across the country, many of which link into the Trans-Canada Telephone System for world-wide telephone access. Each company has a monopoly within its own territory and is subject to government regulations at the appropriate level—federal, provincial or municipal.

CN Telecommunications, the largest single telecommunications system in Canada on the basis of area served, provides telephone service for residents in the Yukon and Northwest Territories, in parts of Newfoundland, and in northern sections of British Columbia and Manitoba. In all, there are some 30,000 subscribers on the CNT telephone network. Without exception, all the CNT exchanges are of the automatic dial type. Subscribers in the Far North have access to the outside world via CNT-operated long-distance toll centres at Whitehorse, Y.T., Fort Nelson, B.C., and Hay River and Inuvik, N.W.T. In some areas, such as the Mackenzie River delta, short-haul long-distance calls are handled by automatic toll ticketing similar to that used by the large telephone companies in the major southern Canadian centres. A recent multi-million-dollar expansion program has brought telephone service to an additional fifty communities in Newfoundland, and many isolated settlements now have as modern a telephone service as any in Canada.

The latest telephone innovation is the electronic exchange and the touch-tone telephone, developed in the United States. The dial is replaced by push-buttons, each of which, when pressed, emits a tone that activates the exchange to contact the desired party. Electronic exchanges are now being used in some areas by the Trans-Canada Telephone System and CN-CP Telecommunications are using a similar touch-tone application in their Broadband Exchange Service (see p. 864).

Public Telegraph Service.—Canada's telegraph systems are operated by CN and CP Telecommunications. These companies operate telegraph offices, often amalgamated, in all ten provinces and in the Yukon and Northwest Territories and messages can be sent to and from any point in Canada or throughout the world via the overseas cable services (see pp. 871-872). At one time, much of the CNT and CPT revenue came from telegraph message traffic but the proportion now accounted for by such traffic is only about 20 p.c. Even so, the reduced telegraph message traffic is handled by the most up-to-date facilities. Messages are transmitted by teleprinter and facsimile equipment, and telegraph networks over which public messages flow are controlled by computers. In other words, messages are taken in and forwarded automatically in accordance with special programs stored in the computer's memory. The computer determines where the message is to be sent and sends it as soon as the circuits are free.

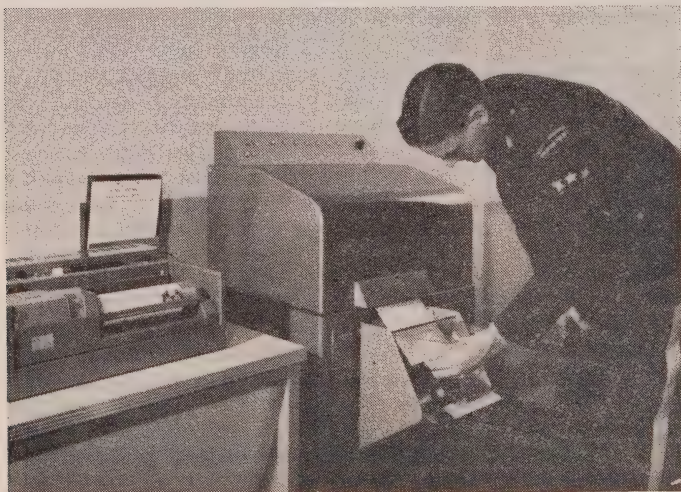
Telex Service.—Telex, by far the largest teletypewriter service in Canada, is provided by CN-CP Telecommunications. Its network of more than 13,500 subscribers in Canada interconnects with the Western Union Telex network in the United States and with European and world-wide networks of at least 250,000 subscribers. Telex is a direct distance dial teleprinter system which permits a subscriber to directly dial any other subscriber on the network. Two speeds are offered to customers—66 words a minute and 100 words a minute—at costs determined on a time-used and distance basis. There is no minimum charge. CN-CP Telecommunications were the first to introduce this dial-and-type service in Canada 11 years ago.

TWX, similar to Telex, is provided by the major Canadian telephone companies. One transmission speed of 100 words a minute is offered on this service, the network of which consists of some 3,000 subscribers in Canada and interconnects with the American Telephone and Telegraph network of 37,000 TWX subscribers and also with the European and world-wide Telex network outside the North American network.

A medium-speed Telex service is offered exclusively by CN-CP Telecommunications, operating in the speed range of up to almost 300 words a minute. The subscriber may own his computer or data sending-receiving equipment or may lease this equipment from CN-CP. This service provides a direct dial interconnection with subscribers anywhere in Canada to achieve a medium-speed range transfer of data from one location to another. The monthly rates to subscribers are the same as the standard-speed Telex service, that is, are based on time-used and distance. A six-level code, an eight-level code, and punched computer cards can operate on the medium-speed service.

Broadband Exchange Service.—In 1967, CN-CP Telecommunications introduced an automatic switching system of the most advanced design, known as Broadband Exchange Service, which has moved Canada into a new era of extremely high quality and very rapid communications. It is the first such system to operate in Canada and the second in the world. Broadband has more than tripled the fastest conventional machine-to-machine transmission. Furthermore, it has the capability, upon customer demand, of transmitting computer data at 51,000 words a minute, or more than 50 times faster than the top speed reached by conventional switched networks. The Royal Canadian Mounted Police was the first organization to be tied into this supersonic network, using it for intricate and high-quality transmission of fingerprints, photographs and documents between headquarters at Ottawa and divisional headquarters at Montreal, Toronto, Winnipeg, Edmonton, Regina and Vancouver. In 1968 the network will be extended westward to Victoria and eastward to Fredericton, Halifax and St. John's and, when installation is complete, the facsimile network will embrace an area of over 3,000 miles, probably the longest network of its kind in the world.

Its name, Broadband Exchange Service, is derived from the actual system since subscribers eventually will be able to select various bandwidths, depending upon their communications needs. The broader the bandwidth, the higher the quality and the



An RCMP communications officer receiving a facsimile of a set of fingerprints and photographs through CNT's supersonic network called Broadband Exchange Service, an automatic, switching system of the most advanced design.

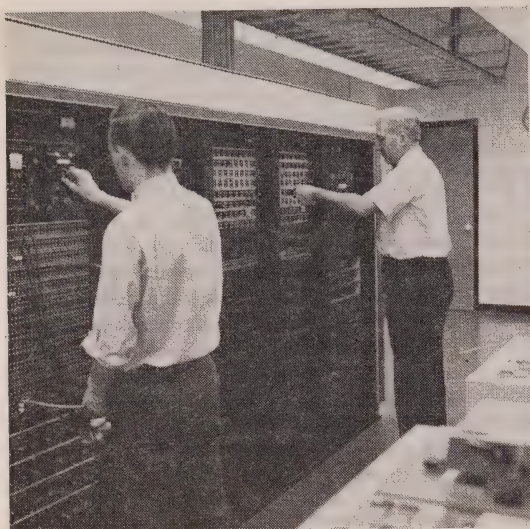
faster the speed of transmission. CN-CP will offer three bandwidths: four kilocycles for voice, facsimile and data (from 1,000 to 3,000 words a minute); 16 kilocycles for high fidelity radio program transmission and facsimile; and 48 kilocycles for high-speed computer-to-computer data exchange (51,000 words a minute) and high-speed facsimile (35 seconds). The four-kilocycle bandwidth is now operational and the 16-kilocycle and 48-kilocycle bandwidths will become available with customer demand.

The initial system consists of four main switching exchanges located at Montreal, Toronto, Winnipeg and Vancouver. Concentrators or, more aptly, 'links' to ten communities surrounding these four main centres lead into the main exchanges to connect other communities to the network. Broadband uses the most advanced techniques known to ensure error-free data transmission. The exchanges are entirely electronic, using dry reeds and without moving parts. Present-day exchange centres, including telephone exchanges, use electro-mechanical switching equipment which can occasionally cause disturbances and errors while transmitting computer data. Without mechanical equipment in the Broadband exchanges, transmission disturbance is virtually eliminated. Transmission is carried by the CNT-CPT microwave system using frequency diversity techniques to provide a high degree of reliability. In other words, the transmission is carried twice both ways over different circuits at the same time, one being a back-up system for the other.

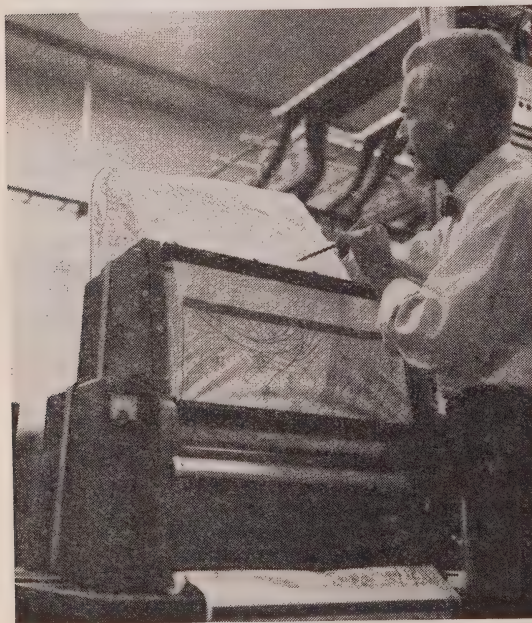
Each subscriber has in his office a voice-data subset—a most advanced telephone instrument which, with a flick of a button, can change from voice communication to transmission of computer data. The subset features push-button 'dialing' and the customer, to reach a distant point, simply pushes the buttons in a series of seven digits. The first three digits pressed designate the distant exchange, the fourth digit indicates the desired bandwidth and the last three digits are for the line of the desired party. A re-ring button is included so that the customer may signal the distant party to revert to voice communication during or after sending computer data. A feature of Broadband is abbreviated keying, where customers may contact frequently called stations by pushing a two-digit code instead of the normal seven. Broadband will make distant connections, including keying time, within five seconds, or two seconds on the special 'hot line' service. Actual connection time after keying or 'dialing' is less than two seconds. Another feature of Broadband is conference calling, where a subscriber, by pushing a two-digit code, will automatically contact a pre-determined list of parties needed for the conference. Subscribers are charged on a 'pay-as-you-use' basis.

Data-Phone Service.—The major Canadian telephone systems operate Data-Phone service which transmits data from punched cards, tape or magnetic tape between two or more machines or computers. It takes pulses from punched cards or tape-data machines and transforms them into tones which are sent over telephone circuits or leased private lines. The subscriber pays for the line while being used at regular long-distance rates. Data-Phone transmits at a speed of 1,200 bits a second or 1,000 words a minute.

Wide Area Telephone Service.—Wide Area Telephone Service (WATS), operated by the Trans-Canada Telephone System, provides dial-type telephone communications from one WATS zone directly to another long-distance zone. In other words, the subscriber has a wider area that he may call directly without going through the long-distance operator or Direct Distance Dialing, and he may select any or all of the WATS ones he wishes. The customer has an access line to a dial exchange office for use only in originating WATS calls. He is charged on a measured time-period rate and an additional hourly rate. The measured time-period is ten hours of accumulated time in each month and the additional hourly rate applies to the time used above the measured time.



Master control board of the computer-controlled transmission system at CNT's Data Central, Toronto, the present major function of which is the handling of airline and railway reservations. The network is also used by the Meteorological Branch of the Department of Transport to transmit weather maps across the country for instant weather information.



Computer-Controlled Transmission Systems.—CN Telecommunications operates the only computer-controlled system in Canada, although The Bell Telephone Company of Canada is planning to install such systems. CNT's Data Central in Toronto was inaugurated in 1964. It controls and transmits information for the reservations systems for Air Canada, Canadian Pacific Air Lines and Canadian National Railways. When an airline customer wishes to make reservations, a computer card is inserted into a card reader. Within three seconds the card will pop up with the reservations or, if there is no space on a particular flight, give alternate flight routes. The operation of the CNR reservation system is basically similar. CNT Data Central also handles Air Canada's 'Notice to Airmen' (NOTAM) project where particular flight plans, runway conditions and navigational aids are stored in Air Canada's computer and given out to pilots across the country where a special code is dialed on teletyp machines.

A third-generation computer installed at the Data Central in early 1967 is performing major 'store and forward' message switching function for the Meteorological Branch of the Department of Transport. Once the computer finds a weather report from any one of the 171 DOT weather stations across the country, it tells the station equipment to transmit the report to Data Central and the determines where and at what time of the day the information is to be sent.

Satellite Communications.

Increasing activity in the Canadian Arctic and sub-Arctic, where communities are being expanded and new ones formed, has prompted the telecommunications industry to consider a domestic satellite system that would suit the communications needs of the North as well as those of the other parts of Canada and for some time this subject has been under intensive study.

the Department of Transport. In 1966 two proposals for a Canadian domestic satellite system—one by a private broadcaster and space electronics company and the other by the Trans-Canada Telephone System and CN-CP Telecommunications—were put before the Federal Government. Both proposals were based on recent forecasts of the telecommunications needs of all of Canada with particular attention to the Far North and both suggested that Canada act as soon as possible before the limited number of good orbital positions were lost by default to other countries. The whole of Canada is visible in space only from that part of the equatorial orbital plane lying between 96° and 116° West Longitude. This forms a 20-degree arc and contains the satellite positions most desirable for Canadian domestic service.

The proposal made by the Trans-Canada Telephone System and CN-CP Telecommunications calls for a three-pronged program for full coverage of Canada by 1970 which would be achieved with a Canadian-owned and -operated space system to be fully integrated with the nation's existing telecommunications network and would cost approximately \$80,000,000. The system would carry television, telephone calls, data and other telecommunications services and would involve the construction and equipping of 54 earth stations, the purchase of three communications satellites and the launching of two of them into stationary orbit at an altitude of 22,300 miles. The stationary orbit and altitude of the satellites means that they would rotate with the earth every 24 hours and therefore at any particular time of the day be over the same spot on earth. The system would have three satellites—two in orbit with one active and the other as standby, and one ready in reserve for launching. Each satellite would be capable of 12 operating channels and each channel would carry either one television program or 1,200 voice circuits. Of these channels, three would be allocated to telephone calls and other message types of service and the remainder would be available to expand national television coverage of all types. The basic network of the 54 earth stations would include: six heavy-route transmit-receive stations; nine network receive-only; one remote area transmit-receive; and 38 remote area television receive-only. Bell Canada, one of the sponsors of the proposal, began to implement plans in 1966 by building an experimental earth station at Bouchette near Ottawa, which could serve as a key element in a common carrier system to bring television to the Far North via satellite.

Basically, satellite communications is just one long microwave link. The clarity and strength of transmission provided by such a satellite would be comparable with that of existing microwave systems; only with respect to time required for transmission from an originating earth station to a satellite and back to another receiving earth station would there be a noticeable difference. Because of the 22,300-mile altitude of the satellite, the two-way transit time would be about 600 milli-seconds or six tenths of a second. This delay would be of no concern for one-way transmission services such as television, but must be taken into account in the case of two-way voice circuits. To minimize the time effects, the proposal calls for the avoidance of tandem connections on space facilities and, wherever possible, the operation of voice circuits with one direction via satellite and the other via ground facilities.

By 1975 the first generation of communications satellite would be nearing the end of its life cycle and undoubtedly additional satellite capacity would be required by then. The scope, capacity and design of the second generation of Canadian satellite would depend on technical developments and traffic requirements during the intervening years. Canada's microwave, land-line and troposcatter systems will continue to be the backbone of telecommunications services for many years to come but satellite communications, properly integrated with land facilities, will make it possible to reach all areas to which service has not yet been economically feasible.

Subsection 1.—Government Control over Telecommunications Agencies

Telephone and telegraph companies incorporated under the Federal Parliament are subject to the jurisdiction of the Canadian Transport Commission in the matter of rates and practices under the provisions of the Railway Act (see pp. 792-793); other companies are responsible to provincial regulatory bodies. International telegraph and telephone communications are handled subject to the International Telecommunication Convention and the Regulations thereunder and/or under regional agreements. Tolls charged to the public for radio communication service are subject to the provisions of the Regulations made under the Radio Act. Overseas cables landed in Canada are subject to the External Submarine Cable Regulations under the Telegraphs Act.

Radio communications in Canada, except for those matters covered by the Broadcasting Act, are regulated under the Radio Act and Regulations and also under the Canada Shipping Act and Ship Station Radio Regulations. In addition, radio communication matters are administered in accordance with the International Telecommunication Convention and Radio Regulations annexed thereto; the International Civil Aviation Convention; the International Convention for the Safety of Life at Sea; the Inter-American Telecommunication Convention and the Convention between Canada and the United States of America relating to the operation by citizens of either country of certain radio equipment or stations in the other country; and also in accordance with such regional agreements as the Agreement between Canada and the United States for the Promotion of Safety on the Great Lakes by Means of Radio, the Agreement between Canada and the United States relating to the Co-ordination and Use of Radio Frequencies Above Thirty Megacycles per Second, the Inter-American Radio Agreement, the North American Regional Broadcasting Agreement, the Canada-USA Television Agreement and the Canada-USA FM Agreement (see also p. 873).

National radio broadcasting in Canada came under Government regulation in 1932 when the Canadian Radio Broadcasting Commission was established under the Canadian Radio Broadcasting Act. In 1936 the Canadian Broadcasting Act was passed, replacing the Commission by the Canadian Broadcasting Corporation to which it gave wide powers in the operation of a national broadcasting system and gave to the Minister of Transport the technical control of all broadcasting stations. In 1958, the Government established a Board of Broadcast Governors which had the function of regulating the establishment and operation of networks of radio and television broadcasting stations, the activities of public and private broadcasting stations and the relationship between them, in the interest of providing a national broadcasting service of high standard, basically Canadian in content and character. On Feb. 7, 1968, legislation was passed by the House of Commons implementing a new broadcasting policy for Canada and amending the Radio Act. For details, see pp. 878-879.

Subsection 2.—Telephone and Telegraph Statistics

Telephone Statistics.—In 1966 there were 2,310 telephone systems operating in Canada compared with 2,374 in 1965; of these systems, 2,127 reported in 1966 and 2,330 in 1965. Co-operative systems in rural districts decreased in number from 2,072 to 1,900 in the same comparison and incorporated companies from 157 to 134. The largest of the incorporated companies, The Bell Telephone Company of Canada, which operates throughout the greater part of Ontario and Quebec and in Newfoundland and the Northwest Territories, served 62 p.c. of all the telephones in Canada in both years and the British Columbia Telephone Company, also shareholder-owned, served 9.7 p.c. of the total in 1966. The number of telephones in use continues to increase at the rate of about 6 p.c. annually.

1.—Pole-Line and Wire Mileage and Number of Telephones in Use, 1957-66

NOTE.—Figures from 1911 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Systems Reporting	Route Mileage	Length of Wire	Telephones in Use			
				Business	Residential	Total	Per 100 Population
	No.	miles	miles	No.	No.	No.	No.
1957.....	2,637	274,334	18,161,444	1,409,446	3,417,689	4,827,135	29.1
1958.....	2,619	280,884	20,250,410	1,486,393	3,631,900	5,118,293	30.0
1959.....	2,605	267,737	22,791,129	1,568,735	3,870,288	5,439,023	31.2
1960.....	2,558	274,855	25,333,802	1,673,915	4,054,252	5,728,167	32.2
1961.....	2,509	306,167	26,986,478	1,729,599	4,284,416	6,014,015	32.6
1962.....	2,430	314,523	28,930,413	1,816,895	4,512,553	6,329,448	33.7
1963.....	2,296	284,202	31,267,977	1,910,178	4,746,435	6,656,613	34.9
1964.....	2,421	281,036	33,731,622	2,016,182	5,003,192	7,019,374	36.1
1965.....	2,330	283,478	36,666,557	2,142,256	5,302,815	7,445,071	38.1
1966.....	2,127	296,998	40,586,184	2,286,753	5,595,875	7,882,628	38.9

2.—Telephones in Use, by Province, 1966

Province or Territory	On Individual Lines		On 2- and 4-Party Lines		On Rural Lines		Public Pay Telephones
	Business	Residential	Business	Residential	Business	Residential	
	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	9,129	30,144	1,173	26,419	234	2,582	683
Prince Edward Island..	2,139	9,053	65	2,507	279	7,559	210
Nova Scotia.....	15,198	103,422	634	16,350	1,102	28,602	3,182
New Brunswick.....	14,970	66,108	613	26,569	884	21,769	2,229
Quebec.....	179,994	937,498	5,361	223,184	10,396	114,140	23,415
Ontario.....	245,246	1,245,225	4,949	393,621	8,370	178,756	26,299
Manitoba.....	32,237	171,802	390	24,788	2,482	38,830	2,743
Saskatchewan.....	30,897	160,905	31	362	3,410	57,760	2,916
Alberta.....	65,810	299,528	7,903	3,925	1,607	28,221	4,589
British Columbia.....	66,583	182,922	268	242,670	3,035	71,226	6,255
Yukon Territory.....	979	1,132	75	1,289	57	136	61
Northwest Territories.	869	1,097	185	1,285	33	20	69
Canada.....	664,051	3,208,836	21,647	962,969	31,889	549,601	72,651
	Private Branch Exchanges		Extensions		Mobile	Total	Telephones per 100 Population
	Business	Residential	Business	Residential			
	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	9,912	—	6,610	7,078	71	94,035	18.9
Prince Edward Island..	2,731	—	1,468	1,950	—	27,961	25.6
Nova Scotia.....	32,320	91	9,732	21,795	—	232,428	30.7
New Brunswick.....	17,623	—	13,692	18,603	1,090	184,150	29.7
Quebec.....	272,867	19	155,086	240,740	349	2,163,049	37.0
Ontario.....	408,328	103	194,159	393,584	934	3,099,574	43.7
Manitoba.....	42,020	—	21,074	30,183	103	366,652	38.2
Saskatchewan.....	25,829	—	16,873	21,591	267	320,841	33.5
Alberta.....	73,970	—	32,933	56,925	2,416	577,827	39.1
British Columbia.....	92,838	—	56,538	81,474	2,325	806,134	41.8
Yukon Territory.....	144	—	1,144	191	100	5,308	35.3
Northwest Territories.	425	—	471	142	73	4,669	16.1
Canada.....	979,007	213	509,780	874,256	7,728	7,882,628	38.9

The major telephone systems record completed calls on representative days throughout the year and on this basis estimate the number of local conversations which, added to the actual count of long-distance calls, gives their total volume of business. Estimates are included for the smaller systems.

3.—Local and Long-Distance Calls and Average Calls per Capita and per Telephone, 1957-66

NOTE.—Figures from 1928 will be found in the corresponding table of previous Year Books beginning with the 1939 edition.

Year	Local Calls	Long-Distance Calls	Total Calls	Total Calls per Capita	Average Calls per Telephone		
					Local	Long-Distance	Total
	'000	'000	'000	No.	No.	No.	No.
1957.....	8,077,101	178,608	8,255,709	498	1,673	37.0	1,710
1958.....	8,513,455	194,186	8,707,641	511	1,663	37.9	1,701
1959.....	9,044,825	205,395	9,250,220	530	1,663	37.9	1,701
1960.....	9,364,586	215,275	9,579,861	537	1,635	37.6	1,672
1961.....	10,242,657	226,258	10,468,915	568	1,703	37.6	1,741
1962.....	10,558,129	250,239	10,808,368	576	1,668	40.0	1,708
1963.....	11,065,030	257,548	11,322,578	593	1,662	39.0	1,701
1964.....	11,658,113	281,239	11,939,352	614	1,661	40.1	1,701
1965.....	12,138,243	301,614	12,439,857	628	1,630	40.5	1,671
1966.....	12,846,178	323,325	13,169,503	650	1,630	41.1	1,671

The steady increases in capitalization, revenue and expenditure of telephone companies together with the figures of number of employees and salaries and wages paid are shown for the years 1957-66 in Table 4. Provincial figures for 1966 are given in Table 5.

4.—Financial Statistics of Telephone Systems, 1957-66

NOTE.—Figures from 1911 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Capital Stock ¹	Long-Term Debt	Cost of Plant	Revenue	Expenditure	Full-Time Employees	Salaries and Wages ²
	\$	\$	\$	\$	\$	No.	\$
1957.....	627,051,991	683,386,827	1,941,591,700	467,701,983	412,158,348	64,074	219,693,002
1958.....	639,824,492	845,613,559	2,202,747,303	507,689,602	451,672,799	61,400	234,298,163
1959.....	730,874,613	916,791,207	2,444,576,788	582,262,550	509,727,426	58,826	240,691,244
1960.....	758,291,439	1,068,399,476	2,692,484,052	627,982,847	549,042,848	57,670	247,128,467
1961.....	879,424,405	1,134,866,419	2,926,527,459	679,306,194	590,428,169	56,322	254,207,734
1962.....	1,012,220,461	1,151,169,891	3,192,229,994	733,294,451	636,542,442	58,091	269,284,720
1963.....	1,207,147,639	1,144,518,306	3,150,479,137	787,374,716	687,272,971	58,416	288,772,585
1964.....	1,328,991,574	1,241,015,012	3,808,675,460	860,207,384	746,503,960	60,829	306,454,089
1965.....	1,380,189,560	1,348,911,971	4,127,386,680	948,177,117	821,204,894	63,467	335,364,967
1966.....	1,575,983,073	1,667,390,608	4,544,521,877	1,048,837,049	912,452,623	68,154	374,372,064

¹ Includes premium on capital stock.

² Full-time and part-time.

5.—Financial Statistics of Telephone Systems, by Province, 1966

Province or Territory	Capital Stock ¹	Cost of Plant	Revenue	Expenditure	Full-Time Employees	Salaries and Wages ²
	\$	\$	\$	\$	No.	\$
Newfoundland.....	12,850,671	39,013,618	9,912,600	7,470,071	764	2,830,452
Prince Edward Island.....	5,078,887	12,982,773	2,773,270	2,364,510	201	736,706
Nova Scotia.....	44,197,108	130,337,388	29,025,482	24,581,176	2,565	10,534,517
New Brunswick.....	40,137,231	122,222,598	26,966,816	23,087,603	1,846	9,018,482
Quebec ³	1,223,803,247	2,861,863,510	683,066,906	586,979,022	19,526	114,427,552
Ontario ⁴	23,890,452	80,060,158	20,416,664	16,122,790	21,677	124,405,990
Manitoba.....	322,174	213,472,437	40,220,255	36,825,101	3,877	19,276,580
Saskatchewan.....	47,562,251	218,187,670	44,728,593	36,190,572	3,206	13,692,881
Alberta.....	3,027,681	365,130,101	74,232,992	76,947,239	7,086	35,566,090
British Columbia.....	175,113,371	501,251,624	117,493,471	101,884,539	7,399	43,801,154
Northwest Territories.....	—	—	—	—	7	81,660
Canada.....	1,575,983,073	4,544,521,877	1,048,837,049	912,452,623	68,154	374,372,064

¹ Includes premium on capital stock.

² Full-time and part-time.

³ Includes data of The Bell Telephone Company, which operates in Quebec, Ontario, Newfoundland and the Northwest Territories.

⁴ Includes data of Northern Telephone Limited, which operates in Ontario and Quebec.

Telegraph Statistics.—There were nine telegraph and cable companies operating in Canada during 1966 but, as already stated, telegraph service is provided mainly by the telecommunications departments of the two major railway companies (see also p. 863). The number of telegrams sent continues to decline year by year, giving way to other types of message transmission, but the number of cablegrams sent has been rising. The business of telegraph and cable companies appears to be changing from one of handling messages directly to one of leasing equipment for the transmission of messages by others. Revenues from the latter source have been rising over the past several years and have been the main factor in the steady advance in total operating revenues. Total cost of property and equipment for all telegraph and cable companies was \$474,826,188 in 1966, increasing from \$447,295,483 in 1965.

6.—Summary Statistics of Canadian Telegraphs, 1957-66

NOTE.—Figures from 1920 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Operating Revenues	Operating Expenses	Net Operating Revenue	Pole-Line Mileage	Wire Mileage	Em- ployees ¹	Telegrams	Cable-grams ²	Money Transfers
	\$	\$	\$	miles	miles	No.	No.	No.	\$
1957....	44,796,778	39,271,893	5,524,885	48,379	451,669	11,159	19,163,723	2,492,982	25,586,057
1958....	47,633,991	39,908,538	7,725,453	47,495	464,661	10,587	17,296,786	2,398,459	24,434,887
1959....	52,962,913	43,511,666	9,451,247	47,535	486,875	10,586	16,390,997	2,487,358	25,589,067
1960....	58,546,167	45,538,063	13,008,104	48,159	510,640	10,279	15,546,292	2,533,014	25,134,534
1961....	64,053,626	51,735,006	12,318,620	48,675	524,720	9,997	15,138,706	2,662,931	25,041,156
1962....	71,379,074	56,451,679	14,927,395	48,381	534,074	10,069	14,451,416	2,606,103	28,060,157
1963....	73,611,349	60,256,828	13,354,521	49,536	532,551	9,826	13,338,941	2,668,796	30,133,340
1964....	78,743,332	63,865,422	14,877,910	49,730	537,438	9,431	12,946,062	2,751,623	32,378,177
1965....	86,087,398	68,869,393	17,218,005	49,623	544,759	9,270	12,788,585	3,037,939	38,865,118
1966....	95,478,146	74,684,229	20,793,917	50,538	547,652	9,161	11,455,849	3,232,073	36,139,334

¹ Excludes commission operators.

² Includes wireless messages and transatlantic telex messages.

Subsection 3.—Overseas Telecommunications Services

The Canadian Overseas Telecommunication Corporation was established in 1950 to maintain and operate external telecommunication services for the conduct of public communications by cable, radiotelegraph and radiotelephone and any other means of telecommunication between Canada and overseas points; to make use of all developments in cable and radio transmission and reception for external telecommunication services; and to conduct investigation and research with the object of improving and co-ordinating such telecommunication services with the telecommunication services of other nations.

By 1967 the following services had been established: direct telegraph, telephone and telex communications between Canada and Argentina, Australia, Barbados, Bermuda, Brazil, Britain, Denmark, Finland, France, Germany, Iceland, Italy, Jamaica, Japan, the Netherlands, New Zealand, Norway, Sweden and Switzerland. Direct telegraph and telex services are operated with Belgium and Peru, direct telegraph service with the Soviet Union and direct telephone and telegraph services with the islands of St. Pierre and Miquelon in the Gulf of St. Lawrence.

The first transatlantic telephone cable, a joint project with the British Post Office, the American Telephone and Telegraph Company, the Eastern Telephone and Telegraph Company and the Corporation, was brought into service in 1956. Apart from normal use of its systems for public telephone and telegraph message traffic, capacity is available for private leased circuits. International telex service was introduced to Canada the same year and service with 133 countries is available. Since 1961 the following cables have

been brought into service: the Canada-Britain 80-circuit telephone cable (CANTAT); the Canada-Greenland-Iceland 24-circuit cable (ICECAN), primarily intended to meet the North Atlantic communication needs of international civil aviation, and its connecting counterpart between Iceland and Scotland (SCOTICE); the Commonwealth Trans-Pacific 80-circuit cable, a four-party enterprise between Canada-Britain-Australia-New Zealand (COMPAC) and part of the round-the-world Commonwealth telephone cable system; the South East Asia Commonwealth 80-circuit cable (a six-party enterprise between Australia-New Guinea-North Borneo-Singapore-Malaya-Hong Kong (SEA-COM), connecting with COMPAC to form a further link; and the use of a number of circuits for Canadian purposes in telephone cable systems connecting Bermuda and the United States and Jamaica and the United States.

The Corporation also operates direct circuits via satellite with Britain, France, Italy, Germany, Switzerland and the Netherlands. The earth station constructed for the Department of Transport at Mill Village, N.S., for research and experimentation, has been brought into service for commercial use and, pending the introduction of suitable multiple-access capability in the satellites, now alternates on a schedule basis with the American station at Andover, Maine, in handling all North American-European traffic routed via satellite. The Corporation's own earth station for commercial purposes is under construction and when completed the present station will revert to its original purpose but will also serve as a standby for commercial operations. Canada, represented by Canadian Overseas Telecommunication Corporation, is a member of the Interim Communications Satellite Committee (ICSC) set up by the participating nations for the development and operation of a global communications satellite system.

The Corporation, under a long-term agreement, has under charter from the Department of Transport the CCGS *John Cabot*, a combined ice-breaker/cable-repair ship, used mainly for repairing the cables in the western North Atlantic Ocean. The Corporation also operates a cable depot at St. John's, Nfld.

7.—External Cables Landed in Canada, 1967

Company and Station	Cables	Nautical Miles
	No.	No.
Canadian Overseas Telecommunication Corporation (COTC)—		
Halifax, N.S. via Azores to Porthurno, England.....	1	3,078
Port Alberni, B.C. to Sydney, Australia via Hawaii, Fiji Islands and New Zealand.....	1	8,232
Sydney Mines, N.S. via Clarenville, Nfld. to Oban, Scotland ¹	2	2,280
Hampden, Nfld. to Oban, Scotland (CANTAT).....	1	2,010
Hampden, Nfld. to Vestmannaeyjar, Iceland via Greenland.....	1	1,657
Western Union International Inc. (WUI)—		
Bay Roberts, Nfld. to Hammil, N.Y., U.S.A.....	2	2,778
Bay Roberts, Nfld. to Azores.....	1	1,343
Eastern Telephone and Telegraph Company (ET&T)—		
Sydney Mines, N.S. via Clarenville, Nfld. to Oban, Scotland ¹	2	2,280
Sydney Mines, N.S. via Clarenville, Nfld. to Penmarch, France.....	2	2,400
New Brunswick Telephone Company Limited (NBTEL)—		
Campobello Island, N.B. to Lubec, Me., U.S.A.....	1	0.3

¹ Twin cable from Clarenville, Nfld. to Oban, Scotland, and single cable from Clarenville, Nfld. via Terrenceville, Nfld. to Sydney Mines, N.S.

² Licensed for operation by two carriers—COTC and ET&T.

Increased demand for all types of overseas telecommunication services resulted in the COTC reporting a net profit of over \$3,500,000 for the year ended Mar. 31, 1967. Income for the year amounted to \$21,212,533.

Subsection 4.—Federal Government Civil Telecommunications and Electronics Services

Telecommunications policy, planning and operations under the jurisdiction of the Department of Transport are administered by the Government Telecommunications Policy and Administration Bureau and the Telecommunications and Electronics Branch. The functions and responsibilities of the Bureau may be summarized as: (1) development of policy and plans with respect to national and international telecommunications by satellites, cables and other media including relations with the Canadian Overseas Telecommunication Corporation, and participation in the work of the International Telecommunication Union and its subsidiary organs; (2) forward planning for the development of economical and effective telecommunications facilities to meet the administrative and general needs of Federal Government departments and agencies throughout Canada, compatible with the improvement of public services, and to arrange for these facilities; (3) planning of emergency measures and administration of the Emergency National Telecommunication Organization (ENTO); (4) development and maintenance within the Bureau of a centre of competence in the latest telecommunications technology; and (5) administration of the Radio Act and Regulations including allocation and assignment of radio frequencies, radio provisions of the Canada Shipping Act, Ship Station Radio Regulations, the Telegraph Act and the Regulations thereunder covering the licensing of overseas submarine cables. The Branch is responsible for: (1) research into and development of new and improved communication and electronic equipment and systems in support of aeronautical, marine, meteorological and other services; (2) construction, maintenance and operation of radio aids to marine and air navigation and of radio communication stations including procurement of the necessary equipment; and (3) administration of the leasing of land-line telecommunication circuits, equipment and related facilities for all services of the Department.

Licensing and Regulation of Radio Stations.—Under the Radio Act and the Canada Shipping Act it is provided that radio stations employing a form of Hertzian wave transmission, including television and radar, be licensed by the Department of Transport unless otherwise exempted by regulation. Licensing, which provides basic control over the right to establish a radio station, involves the assigning of specific frequencies to each station. Frequencies are assigned to many types of services on a shared non-interference basis. Engineering briefs covering the selection or change of frequency, amount of power and design of the directional antenna system must be approved by the Department of Transport and, before a new broadcasting station can be licensed or before modifications can be made to an existing station, notification is sent to the signatory countries of the North American Regional Broadcasting Agreement, in the case of AM broadcasting stations, and to the United States under the Canada-USA Television Agreement and the Canada-USA FM Agreement, for television and FM broadcasting stations, respectively. The setting of standards for the equipment, installation and operation of a station provides control for efficient use of the radio spectrum. A further control is the requirement that operating personnel be subject to examination and certification.

From time to time, the Department of Transport establishes standards governing the technical suitability of radio equipment for licensing in Canada. These standards, which are called Radio Standards Specifications and Standard Radio System Plans, are issued by the Department in co-ordination with representatives of industry. Before a licence may be issued, the radio equipment to be used must comply with the technical requirements of the applicable Radio Standards Specification, in which case they will be listed in the Radio Equipment List as type-approved or technically acceptable. Briefs supporting a request for technical appraisal of a radio apparatus may be prepared and submitted by a fully qualified engineer or the necessary tests may be conducted, for a fee, at the Depart-

ment of Transport Radio Regulations Engineering Laboratory, Ottawa. Over 2,000 units were listed as type-approved or technically acceptable during the year ended Mar. 31, 1967.

Ten fixed and two mobile monitoring stations are maintained at suitable points across Canada to observe actual radio spectrum conditions using a variety of modern electronic aids, their purpose being to ensure that radio communications are conducted according to regulatory procedures and to determine causes of harmful interference.

Under the Safety of Life at Sea Convention and the Canada Shipping Act, most passenger ships and larger cargo ships must be fitted with radiotelegraph or radiotelephone equipment, primarily for distress use. Approval is given for each make and model of equipment that meets the required standard and, in addition, the ship station as a whole is inspected after the licence is issued and periodically thereafter. All Canadian and foreign ships are subject to inspection to ensure that they conform to the requirements of the Safety of Life at Sea Convention.

Standards have been developed for the installation of aircraft radio stations specifying the techniques and materials that may be used, and inspections of radio stations aboard civil aircraft of all operational categories are carried out at prescribed periods. In-flight inspections of the radio communications and navigational aspects of proposed new air-carrier operations, encompassing both land and oceanic routes, are made as required.

Marine and aeronautical radio operator standards and related regulations are covered by international agreement. The International Telecommunication Convention prescribes the qualifications for radio operators on mobile radio stations and the regulations made under the Radio Act provide for the examination and certification of operators both professional and amateur.

Number of Radio Stations Licensed in Canada.—The number of licences in force for radio stations in Canada during the year ended Mar. 31, 1967, was 191,849 compared with 162,840 in 1965-66. These figures include stations operated by federal, provincial and municipal government departments, stations on ships and aircraft registered in Canada and mobile stations operated in public and private land mobile services but do not include private commercial broadcasting licences.

Item	Year Ended—	
	Mar. 31, 1966	Mar. 31, 1967
New applications received.....	23,926	24,447
Authorizations granted.....	23,703	23,665
Licence amendments.....	14,487	25,614
Licences cancelled.....	8,957	10,481
Amateur experimental service licences.....	11,693	12,120
General radio service licences in force ¹	41,534	50,859
General radio service licences issued during year (new or renewed).....	19,001	20,250
Tourist radio service licences.....	4,705	7,126
Total licences in force.....	162,840	191,849
Certificates of Registration issued to U.S. licensees.....	2,322	2,442
Net increase in licences in force over preceding year.....	25,928	29,009

¹ General radio service licences are valid for a three-year period.

Investigation and Suppression of Radio Interference.—The Radio Act provides penalties for selling or using apparatus liable to cause interference to radio reception. Standards are developed and approvals for exemption from licensing issued for certain classes of each equipment. The Department of Transport also provides a country-wide interference service using special investigation equipment for the purpose of tracing source of interference and recommending cures for interference to broadcast, television and other radio reception. Eighty-one cars equipped for measuring and locating source of interference operate from offices located in 35 cities throughout Canada.

Regulations specifying the limits to be met by particular types of apparatus are contained in the Radio Noise Limits Order and Radio Noise Limits Order Amendment. This amendment, introduced on Sept. 24, 1964, designates the limits for noise from

television receivers manufactured in Canada or imported into Canada on or after Apr. 1, 1966 (amended to Apr. 1, 1972 on July 26, 1967). Certain low-powered radio transmitting and receiving equipment, such as garage door controls, may be exempted from licensing under Section 5 of the Radio Act. When a particular model has been exempted, it may be operated without the radio station licence.

Meteorological Communications.—Weather stations operated by the Meteorological Branch of the federal Department of Transport throughout Canada are linked coast-to-coast by means of teletype and, in the remote northern areas, by radio or radioteletype. The land-line teletype circuits are leased from commercial companies and the radio circuits are operated chiefly by the Telecommunications and Electronics Branch of the Department of Transport.

Weather stations on the teletype network transmit their reports directly; other stations report via commercial telegraph or radio facilities to the nearest station on the teletype line for subsequent transmission on the meteorological circuit. The reports are collected on a regional basis and then relayed to other parts of the country as required. There are two coast-to-coast teletype systems transmitting weather information, with main relay points at Vancouver, Edmonton, Winnipeg, Toronto, Montreal, Halifax, Gander and Goose Bay. These centres handle the distribution of weather information within Canada, including the Arctic, and also effect international exchange with the United States and Europe and, through them, with many other countries. Altogether, the Meteorological Branch uses 59,100 miles of teletype circuits, connecting 390 teletype offices.

In addition, a facsimile network connects weather offices and includes radio facsimile transmission to Arctic stations and ships at sea. Weather charts originating at the Central Analysis Office and the High Level Forecast Office in Montreal receive national distribution over the network. Charts prepared at the various Weather Central Offices across Canada are transmitted regionally. Altogether, the Meteorological Branch utilizes 15,900 miles of facsimile circuits, serving 95 offices.

Radio Aids to Marine and Aeronautical Navigation.—Services of the Telecommunications and Electronics Branch of the Department of Transport in aid of marine and aeronautical navigation are outlined in the following paragraphs; details may be obtained on request from the Department of Transport, Ottawa.

Marine Navigation.—Radio aids to marine navigation are provided for radio-equipped Canadian vessels and foreign ships using Canadian waters. This safety and communications service for shipping covers the East and West Coasts, the Great Lakes, the St. Lawrence River and Gulf, Hudson Bay and Hudson Strait and includes regularly broadcast weather reports, storm warnings and notices of dangers to navigation. Ships at sea may obtain medical advice from any coast station. The stations carry out communications by radiotelegraph and/or radiotelephone and most of them provide connections to land telephone lines. Halifax (VCS) and Vancouver (VAI) stations provide a long-range radiotelephone service to ships. Halifax (VCS) and Vancouver (CKN) have radiotelegraph facilities for world-wide communications and participate in the Commonwealth long-range ship communications scheme. Coast stations on Hudson Bay and Hudson Strait, in addition to their regular services, provide commercial communications for posts of the Hudson's Bay Company and various prospecting and development organizations, make weather observations, handle administrative traffic and assist aircraft with information, landing conditions, etc.

Automatic radiobeacon stations are maintained on the East and West Coasts, the St. Lawrence River and Gulf, the Great Lakes and Hudson Bay and Strait, giving navigational aid to mariners by transmitting signals on which bearings may be taken. These stations are arranged, where possible, in groups up to a maximum of six stations transmitting in sequence on a common frequency, the sequence being repeated continually regardless of weather conditions.

Loran is a long-range radio aid to marine and air navigation providing accurate fixes at distances up to 750 miles by day and 1,500 miles by night. Two *Loran* stations operate in Nova Scotia, three in Newfoundland and one on the West Coast. These stations, in conjunction with *Loran* stations of the United States Coast Guard, give service to ships and aircraft plying the North Atlantic and Pacific Oceans. *Decca* is a short-range radio aid to navigation providing accurate fixes at distances up to 250 miles. Four chains of *Decca* stations are in operation—the Newfoundland chain, the Nova Scotia chain, the Anticosti chain and the Cabot Strait chain—giving service to ships off Newfoundland and Nova Scotia and in the St. Lawrence River and Gulf.

It has become general practice to equip merchant ships with radar and important buoys are fitted with radar reflectors to increase their radar visibility. Two shore-based radar installations are in operation—one at Camperdown near the mouth of Halifax Harbour and the other on the Lion's Gate Bridge across the entrance to Vancouver Harbour. Low-powered transceivers are provided for use in emergencies at lighthouses, particularly at locations that would otherwise be completely cut off from assistance in case of illness.

*Aeronautical Navigation.**—Radio aids to air navigation are provided from coast to coast and from the Canada-United States border to the Arctic along and off the airways, and are used by Canadian and foreign air carriers flying over Canadian territory. Six regional offices located at Vancouver, B.C., Edmonton, Alta., Winnipeg, Man., Toronto, Ont., Montreal, Que., and Moncton, N.B., carry out the construction and operation of facilities. Low-frequency radio range stations, located approximately every hundred miles along airways, provide specific track guidance to pilots by means of audible signals which may also be used to obtain direction finding bearings. In addition, radiotelephone communications are available between ground and aircraft, by which means pilots may obtain weather data, air traffic control instructions and other information concerning the safety of flights. Fifty very high frequency omni-directional ranges (VOR) are in operation, a type of facility that enables the pilot to select any desired course. These omni-directional ranges have permitted the establishment of VOR airways across Canada and on a number of trans-border routes in co-operation with the United States. Additional installations are under construction.

Aeronautical radiobeacon stations provide radio signals with which pilots may use their direction finding equipment to obtain relative directional bearings. Fan markers operating on very high frequencies are usually placed on an airway to inform the pilot when he may safely lose altitude or to indicate accurately the distance from an airport. Station location markers, similar to fan markers, are installed at most radio range sites; they enable a pilot to determine when he is exactly over the station.

Airport and airway surveillance radars (150 nautical-mile) are in operation at 16 airports for air traffic control purposes. Precision approach radars are in operation at seven major airports. Instrument landing systems (ILS) provide radio signals which permit pilots to approach airports for landing during periods of very low visibility. An installation normally consists of a localizer transmitter providing lateral guidance to the runway, a glide path transmitter for slope guidance to the approach end of the runway, two marker transmitters giving distance indications from the runway and a low-power radiobeacon (compass locator) to assist in holding procedures and lining up on the localizer course. Forty-five instrument landing systems are in operation.

Aeronautical radio communications stations are located at strategic points across the country, including the Arctic. These stations, operating for the most part on high frequencies, provide communication with domestic and international air carriers. Thirteen international communications stations, giving coverage from coast to coast and over the oceans, form a major contribution on the part of Canada to international aviation.

* See also the item on Air Traffic Control, pp. 850-851.

Subsection 5.—Public and Private Commercial Microwave Facilities

Canada, because of its population distribution and the vast areas served by microwave communication links, ranks second highest among the world's users of microwave communications systems on a per capita/per mile basis. Increasing demand for television outlets necessitated the extension of microwave routes to provide interconnections for the CBC English and French and private networks and recently these routes have been upgraded to enable the transmission of colour television which started in the autumn of 1966. With the use of more automated equipment by industry and various services, associated data and control information must be transmitted at rapid speeds over microwave radio-relay to widespread areas throughout the country. This Subsection gives a summary of the facilities existing or under construction at the end of March 1967.

Railways.—The Telecommunications Departments of the Canadian National and Canadian Pacific Railway Companies have placed in operation a microwave system extending from Montreal to the Pacific Coast, which is used for television, telephone and data relay purposes. They also operate microwave facilities linking the Province of Quebec with the Maritime Provinces and Newfoundland and a major expansion of microwave facilities in Newfoundland has been undertaken by Canadian National Telecommunications (CNT). In addition, CNT has installed a microwave system between Alberta and the Yukon Territory which carries telephone and data traffic and serves both civil and military organizations in the area. In co-operation with Alberta Government Telephones, a combination microwave and tropospheric scatter system connects Alberta and the Northwest Territories. This system is also intended to provide communication for civil and military use in the Far North. The Quebec North Shore Labrador Railways has developed a microwave system extending into northern Quebec to provide communication for mining operations and to serve some civil communication purposes. Ontario Northland Railways operates a microwave installation connecting northern Ontario and James Bay, also for purposes of military and civil communication. The Pacific and Great Eastern Railway makes extensive use of 6,000 Mc/s microwave facilities linking Vancouver with Prince George and Dawson Creek, B.C.

Telephones.—The Trans-Canada Telephone System consists of eight provincial and private systems collectively providing a transcontinental microwave system for the purpose of carrying telephone, television, data and other types of communication services. Extensive microwave systems are utilized within the respective provinces for civil and military communications or television relay purposes. Major expansion has taken place in each province, greatly increasing the number of areas served and system capacity for all types of communication requirements. Tropospheric scatter systems are employed to provide beyond line-of-sight transmissions especially to the Far North; these are used for both civil and military applications.

The telephone companies of the three Prairie Provinces plan to construct a major microwave system extending from Winnipeg to Edmonton, to form part of a projected second transcontinental microwave system operated by the telephone companies. The British Columbia Telephone Company has installed a major trunk system from Prince Rupert to Prince George, which is linked through Prince George with the transcontinental system in the southern part of the province. A microwave system has been built linking Mill Village communication satellite earth station, near Liverpool, N.S. (see p. 872), with the trunk route system of Maritime Telegraph and Telephone Company.

Television.—The two main television interests in Canada—the CBC (now CRTC) and the CTV Television Network Limited—lease private microwave facilities for the relay of television programs from coast to coast. In addition, studio transmitter links are used by various television stations where the television transmitter is situated some distance from the studio and interconnection is required. In sparsely populated areas, off-the-air pick-up signals from primary television stations are sometimes relayed via microwave to rebroad-

casting sites. Microwave facilities are also used in connection with portable and mobile television pick-up where program material is intended for the main studio. Recently, both network facilities and local studio transmitter links have been up-graded to enable the transmission of colour television.

Industrial.—Although many firms utilize public communication facilities on a lease basis, some organizations have installed private microwave systems to provide voice, teletype and control data for various purposes. The British Columbia Hydro and Power Authority, the Calgary Power Corporation, The Hydro-Electric Power Commission of Ontario, the Quebec Hydro-Electric Commission and Manitoba Hydro use a considerable number of microwave relay systems for important control and communication purposes. For example, Hydro-Quebec has recently greatly expanded its hydro power-generating capacity and new microwave routes have been added to permit a central control of the various generating stations. The British Columbia Hydro and Power Authority is installing facilities to link the Vancouver area with Peace River, Mica Creek and the Bonneville Power Administration in the State of Washington, and also for system control in the Vancouver area.

Instructional.—The Department of Transport has opened the 2,600 MHz. microwave band for use by the various educational authorities in Canada for an Instructional TV system. A number of systems are being developed.

Subsection 6.—Miscellaneous Radio Communication Services

In addition to radio communication services provided by the Federal Government, extensive radio communication systems have been established in the provinces, mainly for police, highway and forestry protection purposes. Municipal government departments have steadily increased their use of radio to facilitate operations, particularly as a medium of communication with vehicles—police, fire, engineering, hydro, etc. Such services as taxi, heavy construction, ready-mix concrete, oil pipeline construction and operation veterinarian and rural medical also make extensive use of radio for communication purposes.

Public utilities, power companies, provincial power commissions, oil exploration and mineral development organizations have expanded considerably their use of radio in both mobile and point-to-point radio fields.

The telephone companies provide an extension of land telephone service, by radio, to suitably equipped vehicles. This service is available in all major cities in Canada and along many of the nation's arterial highways. Restricted common-carrier mobile radio service (this service does not permit interconnection with the over-all telephone system but only with specific dispatchers) is available in most major cities in Canada as well as in a number of smaller urban centres. The latter service is provided by telephone companies as well as by other organizations. Low-power radio stations may be licensed to permit short-distance personal and private business radiotelephone communications; more than 50,000 licences were in force on Mar. 31, 1967.

Subsection 7.—Radio and Television Broadcasting*

Broadcasting in Canada has developed over a period of some 48 years as a combination of public and private enterprise. Since the opening program from the first radio station was beamed into a few Montreal homes in 1918, the role of the radio and television program in the daily life of the Canadian family has grown to startling prominence. Today, radio service reaches 99 p.c. and television service over 96 p.c. of the Canadian population.

* Textual material was prepared from information supplied by the Secretary of the Board of Broadcast Governors, Ottawa, shortly after the passage of the Broadcasting Act, 1968, and before its implementation. The statistical data were prepared by the Transportation Division of the Dominion Bureau of Statistics.

To have become such an integral force in the daily life of the nation, broadcasting had to learn the needs of the people and how to serve them. Two 'official' languages forming two distinct cultures had to be served independently but without diminishing the concept of national unity. Dozens of other smaller groups, distinct in culture and frequently dwelling in the same radio or TV coverage area but in separate communities with widely divergent program interests, had to be served. Physical problems of distance and geography had to be overcome. It requires some hundreds of radio transmitters and TV stations and satellites to reach a population distributed across a 4,000-mile southern frontier, through seven time zones and a variety of topographical and climatic regions, and scattered northwest through thousands of square miles to the shores of the Arctic Ocean. Not only do these people have local service that is a reflection of life in their own districts, but by means of thousands of miles of land-lines for radio networks and microwave circuits for television nearly every Canadian may, at the same time, listen or watch as an event of national interest takes place.

In 1932, a publicly owned body, later known as the Canadian Broadcasting Corporation, was created to develop a national service and worked with the private or independent station-owner to establish this service. In 1958, the Board of Broadcast Governors was established, the function of which was to "regulate the establishment and operation of networks of broadcasting stations, the activities of public and private broadcasting stations in Canada and the relationship between them, and provide for the final determination of all matters and questions in relation thereto". The Canadian Broadcasting Corporation consisted of a president and a vice-president and nine other directors appointed by the Governor in Council. It was accountable to Parliament through a Cabinet Minister designated by the Governor in Council and was empowered to establish and maintain program networks and stations. The Board of Broadcast Governors consisted of three full-time members including the chairman and vice-chairman and 12 part-time members and reported to Parliament through a Cabinet Minister. Licensing regulations under the Broadcasting Act of 1932 are outlined briefly in the 1967 Year Book, pp. 881-882.

In 1966, the Government published a White Paper on Broadcasting proposing amending legislation with respect to the administration and regulation of broadcasting. As a result of these proposals, a new Broadcasting Act was passed by Parliament on Feb. 7, 1968 (SC 1967-68, c. 25) establishing the Canadian Radio-Television Commission (CRTC), consisting of five full-time members and ten part-time members, all appointed by the Governor in Council; recruitment and appointment of the officers and employees of the CRTC is the responsibility of the Public Service Commission. The Act states that there shall be an Executive Committee of the Commission, consisting of the five full-time members, which will exercise the powers conferred on it by the Act and submit to each meeting of the Commission minutes of its proceedings since the last preceding meeting of the Commission.

Subject to the provisions of the Broadcasting Act and the Radio Act and any directions issued from time to time by the Governor in Council under the authority of the Broadcasting Act, the Commission regulates and supervises all aspects of the Canadian broadcasting system with a view to implementing the policy enunciated in Section 2 of the Act. The Commission is the licensing authority for the Canadian broadcasting system. The Minister of Transport is responsible for the regulation and control of all technical matters relating to the planning for and the construction of broadcasting facilities but CRTC is responsible for all other matters.

An applicant for licence to establish and operate an AM, FM or TV broadcasting station, a community antenna television system, or a network files completed application forms with the Secretary of the CRTC. If found to be reasonably complete and technically acceptable, the application is accepted by the Commission and a public notice is issued in the *Canada Gazette* and in one or more newspapers of general circulation within the area normally served or to be served by such a station or system. The same procedure applies to an application for the issue of a renewal licence or the amendment of an existing licence.

Broadcasting Facilities.—As of Feb. 29, 1968, the following numbers of broadcasting stations were in operation in Canada:—

	<i>CBC</i>	<i>Private</i>	<i>Total</i>
AM stations.....	31	265	296
FM stations.....	8	68	76
TV stations.....	75	229	304
Short-wave stations.....	16	6	22
Low-power relay transmitters.....	181	—	181

All but 39 of the privately owned television stations and many of the privately owned radio stations are affiliated with the CBC and help to distribute national radio and television services over networks operated by the CBC. Of the unaffiliated private television stations, 11 form the CTV Television Network Limited; the others are independent of network affiliation.

Operations of the Canadian Broadcasting Corporation, 1966-67

In the year ended Mar. 31, 1967, the CBC produced more radio and television programs than ever before, some of them viewed by up to 4,000,000 Canadians on the English network and by up to 2,000,000 on the French network. In addition, some 27 countries, including Britain, the United States, France and Japan, broadcast more than 40 CBC domestic productions, which they either bought or exchanged. Seventeen festival competitions, 14 of them non-Canadian, recognized the merit of CBC radio and television programs. This extensive programming took place while the CBC was converting its television networks to colour, preparing its major Centennial programming, building a \$10,000,000 broadcasting complex to permit the nations of the world to cover Expo 67, and carrying on a long list of more normal engineering and technical projects.

The CBC began to plan its Centennial programming in mid-1964 when the planning group began a long list of national and local events from which those for coverage were selected. By Mar. 31, 1967, Centennial program production already totalled more than 120 hours on television and 260 hours on radio. Training and travelling schedules had to be co-ordinated, including a technical training school in Montreal for highly mobile radio and television teams (the latter using specially constructed two-camera colour packages), a training school in Toronto for commentators, and special training arrangements in other centres. Travel schedules were arranged to cover the 70 to 80 actualities. Hundreds of program ideas flowed between the production points and the planning group, and some programs, such as *Canada '98* and *Canada Express*, went into immediate production.

By Jan. 1, 1967, the International Broadcasting Centre at Expo 67 was operational. It included two colour-capable television studios, six small radio studios, and eight mobile radio and television units for programs originating anywhere on the Expo site. Although the Centre was primarily functional, there was a general broadcasting display on the outer deck and in the corridors and guided tours through a glass-walled catwalk overlooking the studios, control rooms and VTR rooms enabled the public to see programs in production. By March 1967, some 80 radio programs and 48 television programs or inserts had been produced through its facilities and 52 broadcasting organizations from 23 countries outside North America, major and educational networks in the United States and a number of Canadian organizations had made plans to use the facilities.

Television.—As at Mar. 31, 1967, 94.2 p.c. of the estimated 16,120,000 Canadians who speak English only or are bilingual received the CBC's English network coverage by way of CBC stations or privately owned affiliated stations. Of the 6,350,000 who speak French only or are bilingual, 89.1 p.c. received French network coverage by CBC stations or privately owned affiliated stations. The two networks covered over 96 p.c. of the population. Most of those not receiving service were in small scattered communities.

outside the national service coverage area. At Mar. 31, 1967, there were 255 communities of 500 or more population (175 English-speaking and 80 French-speaking) not receiving CBC television at all or not receiving it in the language of the community; community in this context means a concentration of people sufficiently compact to be served by a single TV station. During the year, the CBC and its affiliates extended coverage by way of new network relay or rebroadcasting stations to: Red Rocks, Nfld.; Mont Louis, Causapsca, Mont Georges, Micoua and Outardes, Que.; Hearst and Minden, Ont.; Big River, Sask.; Whitecourt, Athabasca, Banff, Coleman and Bonnyville, Alta.; Chilliwack, Port Alberni, Blue River, Boss Mountain, Spences Bridge, Skaha, Canoe, Midway, Mabel Lake, Olalla, Cawston, Mount Parizeau, Ocean Falls, Houston, Revelstoke and Mica Creek, B.C.

The CBC is experimenting with a new concept of television service, called a Frontier Coverage Package, to provide coverage in remote areas where it is not economical to extend service by normal means. The "package" is a low-power transmitter serviced only by videotape from a selection of programs in the national service and broadcast for four hours each day. This service is first scheduled in English for Yellowknife, N.W.T., and Lynn Lake, Man., and in French for Havre St. Pierre, Que.

Also, the technical feasibility of space satellite transmission opens up new possibilities. For six years, the CBC has kept abreast of satellite developments and gained experience with their use in transatlantic broadcasting. CBC current plans in this area are limited to satellite-to-station transmission, which would enable the CBC to replace surface transmission, at least for its national service, providing costs are acceptable. By this means, it would be technically possible to program the Frontier Coverage stations from the network. Practical satellite-to-home transmission, enabling even isolated individuals in the remote North to pick up a signal, is believed to be still some time away.

Colour came to Canadian television on Sept. 1, 1966. The first phase of the CBC network conversion included installation in Toronto and Montreal of colour production facilities, in Ottawa to allow colour coverage of events of national importance, and at the International Broadcasting Centre at Expo. It also included conversion of network facilities to carry colour, and of the main regional stations to transmit network and certain local film programs in colour. By Mar. 31, 1967, both language networks were carrying up to a maximum of 40 p.c. of their weekly network programming in colour, with additional colour programs seen in local time. Later phases, which await Government approval, provide for facilities at regional production centres to produce as well as carry colour programs. The conversion of network relay and rebroadcasting stations is also involved.

Radio.—The current demand on CBC radio is twofold—first, the need to bring service to the small percentage of the population now beyond the reach of Canadian radio and, secondly, the need to increase the amount of national service programming distributed by the national radio networks. As at Mar. 31, 1967, 98.1 p.c. of the Canadians who speak English only or are bilingual received the English-language service through CBC stations and privately owned affiliated stations and complete radio service in the French language was available to 94.8 p.c. of those who speak French or are bilingual. The two networks together served 98.6 p.c. of the total population. There were 131 communities of 500 or more population (80 English-speaking and 51 French-speaking) not receiving CBC radio or not receiving it in the language of the community.

In radio, an important service is performed by low-power relay transmitters (LPRTs) in the more remote areas of Canada. These are small, unattended radio transmitters to relay radio network service to listeners where reception is inadequate or non-existent and installation of a manned station is impractical. There were 159 LPRTs in operation on Mar. 31, 1967. During the preceding year, radio service was extended by CBC or by affiliates and independent groups associated with affiliates to: Sheet Harbour, N.S.; Minto, N.B.; La Tuque, Chapais, Chibougamau and Gaspé, Que.; Blind River, Donfield, Petawawa, Britt, Espanola and Mindemoya, Ont.; Lynn Lake and Pukatawagan, Man.; Lac La Hache, Chetwynd, Clinton and Mount Timothy, B.C.; and Norman Wells and Pine

Point, N.W.T. An experiment in coverage extension is planned which will serve the Maniwaki area of Quebec where no adequate AM frequencies are yet available. The CBC will install a low-power FM transmitter there which will carry the French-language AM service from Montreal. A similar installation is planned to bring French network service to the Vancouver area.

The CBC operates English-language FM stations in Ottawa, Montreal and Toronto—forming a network—and in Vancouver and Winnipeg, serviced by high fidelity tape and disc exchange. In Montreal, where the CBC has two FM stations, the second offers a local service in French. The CBC FM service emphasizes music but a wide variety of spoken-word material is also used.

The English AM network has moved toward consistent theme programming in the evenings—arts and letters on Tuesdays, regional contributions on Wednesdays, and music on Thursdays; it puts special emphasis on news, has increased its drama productions and has developed a system of more effective balance with the FM schedule. The great flexibility of radio gave an impressive start to Centennial programs. On Dec. 31, 1966, beginning at 7:00 a.m. EST at Wellington, New Zealand, *Salute to Canada* roamed through the world's time zones, finishing at Apia, Western Samoa, at 6:00 a.m. EST on Jan. 1, 1967. This was followed throughout the year by live actualities from across Canada and many specially prepared programs to mark Canada's 100 years. French network programs are more and more designed to show the involvement of radio in the events of the moment. Reacting against the trend to disc, radio has returned to live programs in actualities and documentaries and also in music and light entertainment broadcast direct from the concert hall. The effort by radio to find a contemporary role to television extends to discussions in many fields—sports, religion, art, music and letters, and social problems and topics of interest to French Canadians across Canada.

Regional and Local Programming.—CBC radio and television centres across the country cover local events and problems in news and discussion programs; they offer a means of expression for local writers, actors and musicians, bring in the national service and contribute to the networks, giving a national expression to local voices. The English radio network for many years has carried many of its finest drama, documentary, actuality and musical shows from the regions. For instance, a two-hour period on Wednesday night radio is devoted solely to regional programming under the title *Between Ourselves*. With French-language radio operations now at Chicoutimi, Moncton and Toronto as well as Ottawa, Quebec City and Montreal, the French network is becoming much more responsive to the needs and interests of all French Canada and all points are contributing.

On television, too, the regional centres make important network contributions and, apart from this, the nine English-language TV stations in 1966-67 carried between them some 336 hours of local programming—about 154 hours of film entertainment and 182 hours of mainly local productions of all program types. The French-language stations in Ottawa and Quebec City also produced a number of local programs. Many locally produced programs have a wider appeal and are exchanged among the regions—about 3,000 in 1966-67. This exchange system gives artists, writers and musicians exposure in areas other than their own and reduces the need to buy non-CBC film programs. Exchange programs are widely used by the affiliates and are also available to non-affiliated stations, provided the local CBC station is not scheduling them.

Northern Service.—The objective of the Northern Service is to meet the needs of the people in the North served only by radio by giving them the balance and range of programs heard on the national radio networks prior to television. This is done by enriching the normal national radio schedules with more comedy and entertainment programs. International, national, regional and local news is of first importance. The connection of all northern stations except Frobisher Bay with the national networks and shortwave broadcasts guarantees coverage of international and national events. News editors at Whitehorse and Yellowknife prepare their regional and local news broadcasts

for the Yukon and Mackenzie networks from items gathered by local correspondents throughout their territories, and they contribute news about the North to the national networks "outside".

The Northern Service has been expanding its programs in the local Indian and Eskimo languages. In 1966-67 there were 44 half-hour programs weekly in the two major Eskimo dialects, in addition to news items and other program segments in these languages. CFGB Goose Bay carried a half-hour broadcast and CFFB Frobisher Bay a half-hour "open-line" program in Eskimo. Extensive broadcasts were given in the Eskimo, Indian, English and French languages to acquaint the northern people with the recommendations of the Advisory Committee on Developing Government in the Northwest Territories. A half-hour program devoted to the interests of Indians throughout Canada, which broadcast reports from Indian communities on and off the reservations and from Indian Friendship Centres in the cities, was carried by all Northern Service stations, the northern shortwave service, CBC stations in Windsor and Regina, low-power relay transmitters throughout northern Ontario, and private stations in Campbellton, N.B., Duncan and Kamloops, B.C., and Thompson, Man. The Northern Service co-operated with the Indian-Eskimo Association of Canada in a community development program by broadcasting talks and discussions by people of the Mackenzie River Delta, both Indians and Eskimos. The field workers for this project were members of the Company of Young Canadians who were equipped with tape recorders. A similar program is planned for Yellowknife in 1967-68.

Armed Forces Service.—Through the Armed Forces Service, the CBC provides radio and television programs to the Department of National Defence for broadcasting to Canadian servicemen and their dependants in Europe, Cyprus, the Gaza Strip and Northern Canada and on ships at sea. Recorded radio programs are supplied to broadcasting stations operated by the Armed Forces in Europe, the Middle East and Northern Canada and on ships at sea. News is broadcast by shortwave to Europe and the Middle East as well as by military telephone to Europe. Kinescope and filmed recordings of TV shows are provided to the Department for distribution to remote places where Canadian servicemen are based.

During 1966-67, CBC concert parties took music and comedy entertainment to Goose Bay in Labrador and Inuvik in the Northwest Territories and to the Gaza Strip, Cyprus and Europe. A special round-the-world entertainment tour took Centennial greetings to Canadians serving away from home.

International Service.—Centennial activities and Expo 67 gave the International Service programs a special interest in 1966-67 and the response from listeners by way of cards, letters and reception reports reached a new high of 68,000 compared with 61,000 in the previous year; a steadily increasing number now come from Eastern Europe. The Service broadcasts in 11 languages—English, French, Czech, Slovak, Hungarian, Polish, Portuguese, Spanish, Russian, Ukrainian and German—and the length of programming is from 85 to 90 hours a week. In addition, in 1966-67, transcriptions of music and spoken-word—English, French, German, Spanish and Portuguese—went to broadcasting organizations in several countries. Broadcasts were inaugurated to Africa in English and French via rented transmitter facilities in Britain. Several special projects marked Canada's Centennial, one of which continued a series, begun in 1963, of 52 half-hour programs on Canadian history; this is available in printed form in Canada and abroad in four volumes. In collaboration with RCA Victor Company, 17 discs called *Music and Musicians of Canada* featuring the work of 32 composers in the past 100 years were produced for commercial sale. Also, two world-wide competitions—an essay contest on *Man and His World* and a design contest for a QSL or verification card—brought entries from more than 70 countries; 13 major prize winners were selected to receive expense-paid trips for two to Expo.

In 1966, renovation and improvement of the out-dated transmitting facilities used by the International Service at Sackville, N.B., was begun. Seven 250-kilowatt transmitters will be installed and be operational in 1971 for use by the International Service, the Northern Service and the Armed Forces Service.

Overseas and Foreign Relations.—In addition to the International Service programs which are designed specifically for consumption abroad, the CBC uses domestically produced programs for improving the knowledge of Canada in other countries and for acquainting other peoples with Canadian artists, actors and writers. Some of these programs are sold commercially—in 1966-67 such sales brought some \$220,000—and others are exchanged for productions which contribute greatly to the international flavour of CBC programming. These exchanges are often made through international organizations to which the CBC belongs—the Commonwealth Broadcasting Conference, the European Broadcasting Union, la Communauté des télévisions francophones, la Communauté radio-phonique des programmes de langue française, the Asian Broadcasting Union, and Intertel.

CBC networks are moving into co-production with other countries. The French network, which faces particular difficulties in getting sufficient colour programming other than dubbed American shows, started co-production of a 39-episode colour series, *D'Iberville*, with broadcasting organizations in France, Belgium, Switzerland, Luxembourg and Monaco. It was scheduled on the French network and in Europe for the fall of 1967 and will be seen later on the English network. During the year, broadcasters from 30 countries—22 with major broadcasting systems—were welcomed by the CBC to Canada. Many of them were preparing programs about Canada in its Centennial Year and others came to discuss co-operative projects. The TV Variety-Music Committee of la Communauté des télévisions francophones held its annual meeting at the French network headquarters in Montreal in May. In September, a delegation from the State Committee for Radio and Television of the Soviet Union visited Canada for meetings on Expo broadcasting and for discussions with the CBC on co-operation between the two broadcasting organizations.

Commonwealth Caribbean-Canada Broadcasting.—Following a proposal by Canada's Prime Minister to the Commonwealth Caribbean-Canada Conference in June 1966, the CBC, in co-operation with the governments concerned, undertook studies in preparation for development of a radio broadcasting network, including appropriate production and transmission facilities, to serve the Caribbean Commonwealth countries. The CBC appointed a team to co-ordinate details of the complex undertaking which includes Antigua, the Bahamas, Barbados, British Honduras, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts-Nevis-Anguilla, St. Lucia, St. Vincent, and Trinidad and Tobago. The first phase of the studies was completed in early 1967.

Finance.—Operating expenses of the CBC for the year ended Mar. 31, 1967 totalled \$154,241,000, an increase of some \$20,800,000 over the previous year. The largest single item of the increase, \$12,345,000, was spent on programs. Parliamentary grants totalled \$112,443,000 of which \$1,411,000 went back to the Receiver-General as repayment of capital loans to the CBC, leaving the net operating funds received from the Federal Government at \$111,032,000. Depreciation, included as an operating cost not recoverable from parliamentary grants, brought the net cost of operations to \$118,045,000. Gross advertising revenue amounted to \$35,153,000 and other revenue to \$1,043,000.

Capital assets, after accumulated depreciation, totalled some \$31,500,000 higher than the previous year's \$82,308,000. Facilities for production and transmission of colour programs and improvements to coverage accounted for the largest portion of the increase.

8.—Financial Statement of CBC Operations, Years Ended Mar. 31, 1965-67

Item	1964-65	1965-66	1966-67
	\$	\$	\$
Expenses—			
Production and Distribution—			
Cost of programs.....	79,618,703	85,656,953	98,001,881
Network distribution.....	10,727,250	11,536,284	12,149,163
Station transmission.....	5,003,930	5,509,995	5,906,199
Payment to private stations.....	4,752,553	4,590,870	5,010,405
Commissions to agencies and networks.....	3,718,955	3,944,840	4,143,701
Emergency broadcasting.....	869,335	887,043	931,238
Operational supervision and services.....	10,316,690	11,176,524	15,752,108
Selling and Administration—			
Selling expense.....	1,998,579	2,125,359	2,416,259
Engineering and development.....	1,128,796	1,104,872	1,308,541
Management and central services.....	5,331,629	5,904,756	6,418,146
Interest on loans.....	373,960	1,009,323	2,202,958
Totals, Expenses.....	123,840,380	133,446,819	154,240,599
Income—			
Parliamentary grant.....	85,869,222	94,350,134	111,032,015
Advertising revenue (gross).....	32,871,694	33,562,816	35,153,014
Interest on investments.....	211,584	357,006	498,844
Miscellaneous.....	365,669	438,211	544,152
Totals, Income.....	119,318,169	128,708,167	147,228,025
Depreciation included with total expenses.....	4,522,211	4,738,652	7,012,574
	123,840,380	133,446,819	154,240,599

Operations of Private Broadcasting Stations

Canada's privately owned stations, which are dependent entirely on advertising revenue, provide alternate radio and television service to more than 17,000,000 viewers and listeners. They offer a varied and comprehensive local service to hundreds of communities and many of them are outlets for the CBC network's national service. Although the first private station opened in 1919, legislation recognizing private broadcasting as an integral part of the Canadian scheme came only in 1958. By 1968 there were 250 AM, 56 FM and 57 TV stations, representing a capital investment of \$200,000,000 and transmitting 2,500,000 hours of programming annually. These stations employ about 9,450 persons and pay salaries of close to \$65,000,000, including payments to free-lance talent. Some 95 p.c. of the private stations are members of The Canadian Association of Broadcasters, which has offices in Ottawa, Toronto and Montreal. CAB's Radio Bureau Division produces the non-partisan public service series *Report From Parliament Hill*, featuring talks by Members of Parliament. The Program Exchange Department in Toronto gathers high-quality Canadian and foreign programs and distributes them to interested member stations. Other noteworthy CAB projects include recent five-year sponsorship of the Dominion Drama Festival and the continuing provision of 'in-station' training for students from other countries.

Statistics of the Broadcasting Industry

Financial and other statistics of the radio and television broadcasting industry are obtained by the Dominion Bureau of Statistics in co-operation with the Board of Broadcast Governors and the Department of Transport; summary figures for private and CBC sectors are given in Table 9 for 1964-66.

In 1966, 291 private radio stations and 65 television stations reported to DBS. The operating revenue of the broadcasting industry in 1966 amounted to \$192,380,000, an increase of 12.1 p.c. over the previous year. Of the total, radio broadcasting accounted

for \$81,700,000 or 42.5 p.c. and television broadcasting for \$110,700,000 or 57.5 p.c.; in 1965 radio received \$72,800,000 or 42.4 p.c. and television \$98,800,000 or 57.6 p.c. Revenue from network and national advertising represented 63.4 p.c. of the total broadcasting revenue and revenue from local advertising 36.6 p.c.; network and national advertising increased by 12.2 p.c., local advertising by 9.7 p.c. and other non-broadcasting revenue by 26.8 p.c. over 1965. Operating expenses in 1966 at \$285,100,000 were 14.4 p.c. higher than in 1965. The growth of revenues exceeded the growth of expenses and resulted in an operating profit of \$25,400,000 in 1966 compared with one of \$21,500,000 in 1965. After adjustment on account of other income and expenses and income taxes, the final net profit of the private sector of the broadcasting industry for 1966 was \$15,050,000 compared with \$13,942,000 in 1965. There are no CBC profits or losses in the figure of net profit because any unexpended balance of the parliamentary grant is treated as an account due to the Government of Canada.

9.—Revenue, Expense and Employee Statistics of the Radio and Television Broadcasting Industry, 1964-66

Item	1964		1965		1966	
	Private Stations	CBC	Private Stations	CBC	Private Stations	CBC
	\$	\$	\$	\$	\$	\$
Operating Revenue and Grants						
Broadcasting revenue from network and national advertising.....	69,425,452	23,051,000	78,413,420	23,581,000	89,584,326	24,827,000
Broadcasting revenue from local advertising.....	51,957,524	1,349,000	58,757,439	1,447,000	64,847,218	1,180,000
Non-broadcasting operating revenue.....	7,222,291	577,000	8,623,933	794,000	10,906,766	1,035,000
Grants received ¹	—	90,391,000	—	99,089,000	—	118,044,000
Totals, Operating Revenue and Grants.....	128,605,267	115,368,000	145,794,792	124,911,000	165,338,310	145,086,000
Operating Expenses²						
Representative agency commissions.....	6,952,368	53,000	7,379,878	24,000	8,008,549	177,000
Interest charges.....	3,032,855	377,000	2,647,457	1,009,000	2,424,737	2,203,000
Depreciation and amortization of leasehold improvements.....	7,973,337	4,523,000	9,251,532	4,739,000	10,202,319	7,013,000
Rent, repairs and maintenance, insurance, property taxes, fuel and electricity.....	9,700,782	7,179,000	9,897,891	7,016,000	11,659,374	7,171,000
Salaries and wages.....	46,563,657	48,807,000	49,799,400	52,422,000	56,144,694	60,223,000
Staff benefits.....	1,437,515	3,559,000	1,798,836	3,947,000	2,328,897	4,425,000
Artists' and other talent fees.....	4,870,213	13,912,000	5,253,509	13,692,000	5,399,451	17,002,000
Performing rights.....	2,559,323	5,440,000	2,951,057	7,010,000	3,380,116	4,500,000
Telephone and telegraph and outside services.....	7,197,533	11,897,000	8,360,613	12,254,000	9,730,493	17,690,000
Films, tapes, recordings—rental and purchased.....	9,431,869	11,975,000	11,405,955	14,283,000	13,490,458	12,333,000
Advertising, promotion and travel.....	7,085,511	2,189,000	7,749,728	2,856,000	8,048,921	6,433,000
Taxes and licences (other than income or property).....	1,682,818	—	1,892,280	25,000	2,273,377	—
Office and other operating expenses.....	4,771,149	5,457,000	5,890,871	5,634,000	6,873,516	5,916,000
Totals, Operating Expenses.....	113,258,930	115,368,000	124,279,007	124,911,000	139,964,902	145,086,000
Net operating income including grants.....	15,346,337	—	21,515,785	—	25,373,408	—
Net of other income and expenses.....	634,243	—	613,030	—	1,055,756	—
Less: provision for income taxes.....	5,978,907	—	8,186,415	—	11,378,220	—
Net income after taxes.....	10,001,673	—	13,942,400	—	15,050,944	—
Average monthly number of employees.....	8,503	8,121	8,945	7,947	9,450	8,475

¹ The CBC charges its operations with depreciation, but deducts the charge on its published statements; the charge so made has been added to the government grant. ² Excludes advertising agency commissions, estimated to be \$14,919,132 in 1964, \$17,585,786 in 1965 and \$20,298,498 in 1966.

Section 2.—Postal Service

The basic tasks of the Canadian Postal Service are to receive, convey and deliver postal matter with speed and security. To carry out these duties, it maintains thousands of post offices and utilizes air, railway, land and water transportation facilities. In addition, associated functions include the sale of stamps and other articles of postage, the registration of letters and other mail for dispatch, the insuring of parcels, the accounting of COD articles, and the transaction of money order and Post Office Savings Bank business. Because of its transcontinental facilities, the Post Office also assists other government departments with such tasks as selling unemployment insurance stamps, hunting permits, collecting government annuity payments, distributing income tax forms and Public Service employment application forms, and displaying government posters.

Post offices are established wherever the population warrants. Those in rural areas and small urban centres transact all the functions of a city office. In larger urban areas, postal stations and sub offices have full functions similar to the main post office, including general delivery service, lock-box delivery and letter-carrier delivery.

Much sophisticated automatic equipment has been installed in Canada's larger post offices, which could be described as complex semi-automated plants. Such devices include conveyors and chutes, parcel and bag sorting machines, photo-electric counters, intercom systems, observation gallery telephone systems, and industrial music. Outside the post office building are found such innovations as mailmobiles, automatic stamp vending machines, and curbside plastic mail boxes.

The operating service of the Post Office Department is organized into 14 districts, each under a district director. These district directors and the postmasters, Toronto, Montreal, Vancouver, Winnipeg and Ottawa, report directly to the Assistant Deputy Postmaster General Operations, who has the responsibility of conducting the normal field operations of the Postal Service. The operating and support functions required in the provision of postal service to the public are the responsibility of the local postmasters who receive technical and administrative assistance from district offices at strategic points.

Postal service is provided in Canada from Newfoundland to the west coast of Vancouver Island and from Pelee Island, Ont. (the most southerly inhabited point of Canada), to settlements and missions far into the Arctic. Canada's airmail system provides several transcontinental flights daily, intersected by branch and connecting lines radiating to every quarter and linking up with the United States airmail system. All first-class domestic mail up to and including eight ounces in weight is carried by air between one Canadian point and another, whenever delivery can thus be expedited. Air stage service provides the only means of communication for many areas in the hinterland. There are approximately 46,000 miles of airmail and air stage routes. However, the railways are still the principal means of distant mail transport.

At Mar. 31, 1966 there were 11,274 post offices in operation, distributed provincially as follows: Newfoundland 687, Prince Edward Island 106, Nova Scotia 774, New Brunswick 508, Quebec 2,469, Ontario 2,722, Manitoba 805, Saskatchewan 1,170, Alberta 1,049, British Columbia 920, Yukon Territory 20, and Northwest Territories 44. Letter-carrier delivery, performed in 201 urban centres, employed over 8,473 uniformed carriers. Rural mail routes are generally circular in pattern and average about 26 miles in length. Some 939 side services transport mail between post offices, railway stations, steamer wharves and airports, and 1,787 stage services convey mail to and from post offices not located on railway lines. Transportation of mail by motor vehicle on highways is expanding and more than 485 such services were in operation in 1966, many of them replacing or reducing conveyance by rail. In 1966 there were 915 city mail services transporting mail to and from post offices, postal stations and sub post offices, collecting mail from street letter boxes and delivering parcel post. Over 50,000,000 miles are travelled annually on about 9,800 mail services; both land mail and coastal mail services are performed under contract.

Revenue and expenditure of the Post Office Department for the five years ended Mar. 31, 1966 are shown in Table 10; gross revenue receipts are received mainly from postage, either in the form of postage stamps and stamped stationery, or postage meter and postage register machine impressions. Some postage is also paid in cash without stamps, stamped stationery or meter and register impressions. The gross value of the postage stamps and stamped stationery sold during 1965-66 was \$105,878,986, and receipts from postage meter or postage register impressions and postage paid in cash by other means amounted to \$151,954,233.

10.—Revenue and Expenditure of the Post Office Department, Years Ended Mar. 31, 1962-66

NOTE.—Figures from 1868 will be found in the corresponding table of previous Year Books beginning with the 1911 edition.

Year	Gross Revenue	Net Revenue ¹	Expenditure ²	Surplus (+) or Deficit (—)
	\$	\$	\$	\$
1962.....	213,517,994	183,678,936	185,019,700	—1,340,764
1963.....	222,358,848	192,830,859	189,344,410	+3,486,449
1964.....	235,807,940	200,774,264	206,900,000	—37,507,200 ³
1965.....	263,704,342	230,488,693	210,458,700	—11,479,200 ³
1966.....	275,994,268	237,538,585	240,206,458	—30,668,200 ³

¹Gross revenue less commissions and allowances to postmasters and other small items.
of semi-staff and staff post offices.

²In accordance with new accounting practice.

³Excludes rental

In the year ended Mar. 31, 1966, post office money orders, issued for any amount not exceeding \$100 and payable in almost any country of the world, were sold at more than 9,160 post offices and money orders payable in Canada only, for amounts not exceeding \$15.99, were sold at some 1,415 additional post offices. Table 11 shows the amount of money order business conducted by the Postal Service in recent years.

11.—Operations of the Money Order System, Years Ended Mar. 31, 1962-66

Year	Money Order Offices in Canada	Money Orders Issued in Canada	Value of Orders Issued in Canada	Value Payable in—		Value of Orders Issued in Other Countries, Payable in Canada
				Canada	Other Countries	
	No.	No.	\$	\$	\$	\$
1962.....	10,708	56,252,265	893,512,291	867,182,785	26,329,506	5,940,795
1963.....	10,679	55,448,076	898,164,577	874,660,765	23,503,811	6,885,116
1964.....	10,690	56,544,267	927,750,738	904,166,425	23,584,313	7,681,041
1965.....	10,668	55,603,081	943,684,714	919,134,578	24,550,136	9,285,388
1966.....	10,575	55,831,820	965,095,890	940,661,264	24,434,126	10,098,579

A statement on the financial business of the Post Office Savings Bank will be found in Chapter XXV on Banking, Other Commercial Finance and Insurance.

Section 3.—The Press*

The freedom of the public in Canada is strenuously exercised by an omnipresent press. Daily newspapers published in the country in 1966 numbered 118, counting morning and evening editions separately. Combined circulation was about 4,336,000—83 p.c. in English and 17 p.c. in French. Publishers' surveys show that each newspaper is read by an average of three persons.

Daily newspaper advertising revenue in 1966 was \$234,915,000 and circulation revenue was \$84,782,000. By comparison, advertising revenue of 291 private radio stations in Canada in 1966 was \$78,000,000 and of 65 private television stations \$76,000,000. There were 13 daily newspapers with circulation in excess of 100,000, accounting for about 54 p.c. of total circulation. There were 12 dailies published in the French language, 10 of them located in Quebec. Although the circulation of daily newspapers blankets the more populous areas, well beyond publishing points, smaller cities and towns and rural areas are also served by about 800 weekly newspapers catering to local interests and exercising important local influence. The Canadian society is also enriched by 81 ethnic daily or weekly newspapers published in many languages, often sprinkled with English.

About 60 p.c. of Canada's daily newspapers are privately owned or independent. There are three major newspaper chains in the country, owned by Southam Press Ltd. (eight dailies), Thomson Newspapers Ltd. (28 dailies) and FP Publications Ltd. (eight dailies). Both Southam and Thomson Newspapers are publicly owned companies with shares traded on Canadian stock exchanges. Papers in the Thomson chain are concentrated in the smaller cities. Southam accounts for about 20 p.c. of total daily circulation, FP for about 18 p.c. and Thomson 7 p.c.

In addition to their own news-gathering staffs and facilities, Canadian newspapers subscribe to a number of syndicated agencies and wire services, the largest being Canadian Press which is a co-operative agency owned and operated by Canadian dailies. Largely by teletype and wirephoto transmission, it provides its 103 member newspapers with world and Canadian news and also serves weekly newspapers and radio and television stations. CP has its own news-gathering staff and each member newspaper provides the agency with important local news for transmission to fellow members and members share the cost in ratio to the size of population of the cities in which they publish.

CP carries world news from Reuters, the British agency, and from Associated Press, the United States co-operative, and these agencies are offered CP news on a reciprocal basis. CP maintains a French-language service in Quebec and translation services for both English and French Canada.

United Press International of Canada, the second major news wire service in Canada, is a private company and an affiliate of United Press International World Service. It provides Canadian and international news and pictures to 50 subscribers in Canada and is an outlet for Canadian news through United Press International facilities. Certain foreign newspapers maintain bureaus in Ottawa and elsewhere in Canada to collect and interpret Canadian news.

Press Statistics.—The following tables are based on data estimated from *Canadian Advertising*. Circulation figures are given for daily English-language and French-language newspapers only. Such circulation figures are relatively easy to obtain because, in their own interest, newspapers qualify for and subscribe to the Audit Bureau of Circulation. For these, ABC 'net paid' figures have been used; 'controlled' (free) distribution newspapers are not included. On the other hand, circulation data for foreign-language newspapers, weekly newspapers, weekend newspapers and magazines are incomplete and therefore not usable.

* An article in the 1957-58 Year Book traces developments in Canadian journalism from their beginnings in 1752 (circa) 1900. A second article appearing in the 1959 edition brings that account up to 1958.

12.—Estimated Numbers and Circulations of reporting English-Language, French-Language and Foreign-Language Newspapers, by Province, 1965 and 1966

Province or Territory	1965				1966			
	Daily		Weekly ¹	Weekend	Daily		Weekly ¹	Weekend
	No.	Circulation ²	No.	No.	No.	Circulation ²	No.	No.
ENGLISH-LANGUAGE NEWSPAPERS								
Newfoundland.....	3	29,576	4	1	3	30,821	4	1
Prince Edward Island.....	3	28,639	—	—	3	28,916	—	—
Nova Scotia.....	6	156,831	31	—	6	159,525	32	—
New Brunswick.....	5	93,259	15	—	5	96,180	15	—
Quebec.....	4	338,245	17	1	4	340,299	20	1
Ontario.....	47	1,756,973	243	5	47	1,805,079	246	4
Manitoba.....	9	228,086	62	—	7	220,011	62	—
Saskatchewan.....	4	121,126	114	—	4	125,920	112	—
Alberta.....	7	282,737	90	1	7	290,951	88	1
British Columbia.....	14	484,973	96	—	14	497,959	94	—
Yukon and Northwest Territories.....	—	—	4	—	1	..	4	—
Totals.....	102	3,520,445	676	8	101	3,595,661	677	7
FRENCH-LANGUAGE NEWSPAPERS³								
Nova Scotia.....	—	—	1	—	—	—	1	—
New Brunswick.....	1	10,146	3	—	1	10,216	3	—
Quebec.....	11	703,958	155	16	10	691,803	140	16
Ontario.....	1	36,649	6	—	1	38,048	6	—
Manitoba.....	—	—	1	—	—	—	1	—
Saskatchewan.....	—	—	6	—	—	—	6	—
Alberta.....	—	—	1	—	—	—	1	—
Totals.....	13	750,753	173	16	12	740,067	158	16
FOREIGN-LANGUAGE NEWSPAPERS⁴								
Quebec.....	—	—	12	—	—	—	14	—
Ontario.....	2	..	42	—	2	..	46	—
Manitoba.....	—	—	14	—	—	—	13	—
Alberta.....	—	—	1	—	—	—	1	—
British Columbia.....	3	..	3	—	3	..	2	—
Totals.....	5	..	72	—	5	..	76	—

¹ Includes semi-weeklies, tri-weeklies and bi-weeklies.

² Includes bilinguals.

³ Includes bilinguals.

⁴ All daily and weekly foreign-language publications given here are considered to be newspapers.

13.—Estimated Numbers and Circulations of reporting English-Language and French-Language Newspapers Published in Urban Centres of Over 30,000 Population, 1965 and 1966.

Note.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Urban Centre	Households (Census 1966)	1965		1966			
		Daily		Weekly	Daily		Weekly
		No.	No.	Circulation	No.	No.	Circulation	No.
ENGLISH-LANGUAGE NEWSPAPERS							
Belleville, Ont.....	9,287	1	14,510	—	1	14,896	—
Brampton, Ont.....	9,184	1	10,147	—	1	7,048	—
Brantford, Ont.....	17,395	1	23,436	—	1	23,919	—
Burlington, Ont.....	17,171	—	—	1	—	—	1
Calgary, Alta.....	94,941	2	116,289	1	2	120,854	1
Chatham, Ont.....	9,304	1	14,132	—	1	14,458	—
Cornwall, Ont.....	11,783	1	13,334	—	1	13,515	—
Dartmouth, N.S.....	13,937	—	—	1	—	—	1
Edmonton, Alta.....	105,016	1	127,486	3	1	130,656	2
Fort William, Ont.....	13,241	1	16,359	—	1	16,431	—
Galt, Ont.....	9,303	1	12,847	—	1	13,136	—
Granby, Que.....	8,622	—	—	1	—	—	1
Guelph, Ont.....	13,876	1	15,330	—	1	15,979	—
Halifax, N.S.....	21,617	2	113,228	1	2	115,068	2
Hamilton, Ont.....	84,540	1	116,923	2	1	118,487	1
Kingston, Ont.....	16,419	1	24,633	1 ¹	1	25,662	1 ¹
Kitchener, Ont.....	26,192	1	43,244	—	1	45,413	—
Lethbridge, Alta.....	10,644	1	18,784	—	1	19,027	—
London, Ont.....	56,368	2	121,772	—	2	122,387	—
Moncton, N.B.....	11,605	2	29,095	—	2	30,132	—
Montreal, Que.....	368,669	2	324,454	2 ²	2	328,382	2 ²
Moose Jaw, Sask.....	10,087	1	8,907	—	1	9,100	—
New Westminster, B.C.....	12,281	1	18,502	1	1	23,876	1
Niagara Falls, Ont.....	15,725	1	16,593	—	1	17,091	—
Oakville, Ont.....	13,452	1	6,902	—	1	7,200	—
Oshawa, Ont.....	21,751	1	21,131	—	1	21,756	—
Ottawa, Ont.....	81,703	2	148,175	1	2	147,804	2
Peterborough, Ont.....	15,456	1	24,789	1	1	25,769	1
Port Arthur, Ont.....	12,810	1	15,006	—	1	14,781	—
Quebec, Que.....	44,589	1	5,088	—	1	4,958	—
Regina, Sask.....	37,314	1	61,217	—	1	64,008	—
St. Catharines, Ont.....	27,203	1	30,542	—	1	32,008	—
St. James, Man.....	9,918	—	—	1	—	—	1
St. John's, Nfld.....	16,563	2	22,672	1 ¹	2	23,850	1 ¹
Saint John, N.B.....	14,075	2	49,323	1	2	50,759	1
Sarnia, Ont.....	15,058	1	16,437	1	1	17,430	1
Saskatoon, Sask.....	33,224	1	43,976	—	1	45,641	—
Sault Ste. Marie, Ont.....	18,626	1	19,012	—	1	19,428	—
Sheridan, Que.....	7,320	—	—	1	—	—	1
Sherbrooke, Que.....	19,101	1	8,703	—	1	8,959	—
Sudbury, Ont.....	21,486	1	30,195	1	1	31,077	1
Sydney, N.S.....	7,615	1	27,136	1	1	27,569	1
Toronto, Ont.....	178,525	4	777,074	10 ¹	4	808,484	11 ⁴
Trois-Rivières, Que.....	14,123	—	—	1	—	—	1
Vancouver, B.C.....	138,449	2	346,545	4	2	346,889	4
Victoria, B.C.....	20,795	2	62,347	2	2	65,259	2
Velland, Ont.....	10,625	1	18,303	—	1	18,473	—
Windsor, Ont.....	53,687	1	81,077	—	1	81,836	—
Winnipeg, Man.....	77,930	2	203,460	2	2	194,730	2
FRENCH-LANGUAGE NEWSPAPERS							
Chicoutimi, Que.....	6,377	—	—	2	—	—	2
Cornwall, Ont.....	11,783	—	—	1	—	—	1
Edmonton, Alta.....	105,016	—	—	1	—	—	1
Granby, Que.....	8,622	1	11,275	1	1	11,001	1
Galt, Que.....	14,654	—	—	2 ²	—	—	2 ²
Jacques-Cartier, Que.....	11,574	—	—	1 ⁵	—	—	1 ⁵
Machine, Que.....	11,775	—	—	1 ⁵	—	—	1 ⁵

For footnotes, see end of table, p. 892.

13.—Estimated Numbers and Circulations of reporting English-Language and French-Language Newspapers Published in Urban Centres of Over 30,000 Population, 1965 and 1966—concluded.

Urban Centre	Households (Census 1966)	1965			1966			
		Daily		Weekly	Daily		Weekly	
		No.	No.	Circulation	No.	No.	Circulation	No.
FRENCH-LANGUAGE NEWSPAPERS—concluded								
LaSalle, Que.....	13,232	—	—	—	1 ⁵	—	—	—
Laval, Que.....	44,831	—	—	—	2 ⁵	—	—	2 ⁵
London, Ont.....	56,368	—	—	—	1 ⁵	—	—	1 ⁵
Moncton, N.B.....	11,605	1	10,146	—	1	10,216	—	—
Montreal, Que.....	368,669	5	415,797	26 ^{r,6}	5	415,847	—	19 ⁷
Ottawa, Ont.....	81,703	1	36,649	—	1	38,048	—	—
Quebec, Que.....	44,589	3	191,204	3 ²	2	185,750	—	3 ²
St. Boniface, Man.....	11,205	—	—	1	—	—	—	1
Ste. Foy, Que.....	11,021	—	—	1	—	—	—	1
St. Laurent, Que.....	15,865	—	—	1	—	—	—	—
Shawinigan, Que.....	7,320	—	—	5	—	—	—	3
Sherbrooke, Que.....	19,101	1	42,504	1	1	34,804	—	1
Sudbury, Ont.....	21,486	—	—	2	—	—	—	2
Trois-Rivières, Que.....	14,123	1	43,178	3	1	44,401	—	2

¹ Weekend newspaper.² Includes one weekend newspaper.³ Includes four weekend newspapers.⁴ Includes three weekend newspapers.⁵ Bilingual.⁶ Includes 11 bilingual and 14 weekend newspapers.⁷ Includes five bilingual and 14 weekend newspapers.

14.—Estimated Numbers of Foreign-Language Publications, 1965 and 1966

Language	1965	1966	Language	1965	1966
No.	No.	No.	No.	No.	No.
Byelorussian.....	1	1	Latvian.....	1	1
Chinese.....	4	4	Lithuanian.....	3	3
Croat.....	3	3	Macedonian.....	1	—
Czech.....	2	2	Norwegian.....	1	1
Danish.....	1	1	Polish.....	3	3
Dutch.....	8	9	Portuguese.....	4	4
Estonian.....	2	2	Serbian.....	3	3
Finnish.....	2	2	Slovak.....	2	2
German.....	10	10	Slovenian.....	1	1
Greek.....	4	4	Swedish.....	3	3
Hungarian.....	8	8	Ukrainian.....	18	18
Icelandic.....	1	1	Yiddish.....	4	4
Italian.....	11	15			
Japanese.....	2	2	Totals.....	103	110

15.—Estimated Numbers of Magazines and Related Publications, by Broad Classifications, 1965 and 1966

Classification	1965	1966	Classification	1965	1966
No.	No.	No.	No.	No.	No.
Agricultural and rural.....	59	58	Professions (engineering, architecture, law, accountancy, photography, etc.).....	22	24
Construction.....	24	24	Religious.....	37	34
Educational.....	105	111	Services and directories.....	97	92
Finance and insurance.....	14	15	Sports and entertainment.....	77	85
Government and government services.....	28	27	Trade, industry and related publications.....	207	205
Home, social and welfare.....	47	48	Transportation and travel.....	44	46
Labour.....	15	14	Miscellaneous.....	26	28
Pharmaceutical, medical, dental and nursing.....	62	62	Totals.....	864	873

Revenue from Printing and Publishing.—One of the industrial groups for which information is collected by the DBS in its annual Census of Manufactures is the printing, publishing and allied industries group which includes establishments engaged primarily in the publishing and printing of newspapers, magazines, periodicals, books, almanacs, maps, guides and the like, as well as establishments printing such publications for publishers, publishing firms that do no printing, and engraving, stereotyping and allied industries. Of interest in connection with press statistics is the amount of revenue received by these industries from advertising and from subscriptions or sales, which is given for the years 1964 and 1965 in Table 16. Additional data on manufacturing activity of this industrial group are included in Chapter XVI on Manufactures.

16.—Revenue from Advertising and from Subscriptions or Sales of Newspapers, Periodicals and Books, 1964 and 1965

Classes	1964 ¹			1965		
	Net Revenue ¹ from—			Net Revenue ¹ from—		
	Adver- tising	Subscrip- tions and Sales	Total	Adver- tising	Subscrip- tions and Sales	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newspapers and Periodicals—						
Newspapers, daily.....	195,894	71,520	267,414	220,822	79,652	300,474
Retail.....	101,654	...	...	113,294	...	...
Classified.....	43,164	...	...	49,135	...	...
National.....	51,076	...	...	58,393	...	...
Newspapers, national weekend.....	17,935	10,104	28,039	17,394	10,495	27,889
Local.....	2,754	...	...	2,365	...	...
National.....	15,181	...	...	15,029	...	...
Newspapers, weekly, semi-weekly, tri-weekly, etc.....	26,256	6,301	32,557	29,466	6,986	36,452
Local.....	20,539	...	...	23,323	...	...
National.....	5,717	...	...	6,143	...	...
Controlled distribution weekly newspapers....	922	76	998	1,495	221	1,715
Local.....	855	...	...	1,195	...	...
National.....	66	...	...	299	...	...
Magazines of general circulation.....	17,818	8,748	26,566	19,651	8,965	28,615
Telephone and city directories ²	34,461	2,037	36,498	34,790	1,533	36,323
Trade, technical, professional and financial pub- lications.....	26,400	6,825	33,224	29,931	6,552	36,483
Agricultural publications.....	5,551	949	6,501	4,230	709	4,939
Religious publications.....	463	3,250	3,714	583	3,243	3,826
School and collegiate publications.....	50	826	877	176	954	1,131
Fraternal publications.....	375	418	794	372	413	785
Juvenile publications.....	31	378	409	31	139	170
All other periodicals.....	1,424	2,669	4,093	1,840	2,915	4,756
Totals, Newspapers and Periodicals.....	327,580	114,101	441,681	360,781	122,777	483,553
Books—						
Books published and printed.....	...	10,941	10,941	...	12,343	12,343
Books published only.....	...	19,620	19,620	...	22,501	22,501
Totals, Books.....	...	30,561	30,561	...	34,844	34,844

¹ Net revenue from advertising excludes commissions paid to recognized advertising agencies and all cash discounts; net revenue from subscriptions and sales excludes commissions paid to indirectly employed sales agents who are not regular employees.

² Includes telephone directories published by telephone companies.

CHAPTER XXI.—DOMESTIC TRADE AND PRICES

CONSPECTUS

	PAGE		PAGE
Part I.—The Movement and Marketing of Commodities.....	894	Subsection 2. Controls Over Farm Products Other Than Grain.....	921
SECTION 1. MERCHANDISING AND SERVICE ESTABLISHMENTS.....	894	SECTION 2. COMBINATIONS IN RESTRAINT OF TRADE.....	923
SECTION 2. THE MARKETING OF AGRICULTURAL PRODUCTS.....	906	SECTION 3. CONTROL AND SALE OF ALCOHOLIC BEVERAGES.....	925
Subsection 1. The Grain Trade, 1965-66	906	SECTION 4. MISCELLANEOUS AIDS OR CONTROLS.....	928
Subsection 2. Livestock Marketings....	912	Part III.—Bankruptcies and Commercial Failures.....	933
SECTION 3. STORAGE AND WAREHOUSING...	914	Part IV.—Prices.....	936
SECTION 4. CO-OPERATIVE ORGANIZATIONS.	915	SECTION 1. INDEX NUMBERS OF WHOLESALE PRICES.....	936
Part II.—Government Aids to and Control of Domestic Trade.....	918	SECTION 2. CONSUMER PRICE INDEX.....	939
SECTION 1. CONTROLS AFFECTING THE MARKETING OF FARM PRODUCTS.....	918	SECTION 3. CONSUMER EXPENDITURE.....	942
Subsection 1. Control of the Grain Trade	918	SECTION 4. SECURITY PRICE INDEXES.....	943

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

PART I.—THE MOVEMENT AND MARKETING OF COMMODITIES

Domestic trade is broad and complicated; it encompasses all values added to commodities traded, provincially and interprovincially, by agencies and services connected with the storage, distribution and sale of goods, such as railways, steamships, warehouses, wholesale and retail stores, financial institutions, etc. Taken in a wide sense, it embraces various professional and personal services, including amusement services such as theatres and sports. Only certain phases of this broad field are covered here and, wherever possible, cross references are given to related material appearing in other Chapters. The arrangement of material in a volume such as the Year Book is governed by the necessity of interpretation from various angles. The Index will be found useful in this respect.

Section 1.—Merchandising and Service Establishments*

The surveys of merchandising and service establishments centre around a census of such business establishments. The first census of this kind related to business transacted for the year 1930 and similar censuses were taken for 1941, 1951 and 1961. The 1961 census, however, collected a wider range of data than the previous censuses; gross margin information was collected from retail stores and wholesalers, operating expense figures were collected from wholesalers and service businesses, and more information was sought about the operating characteristics of retailers and wholesalers. Detailed results are given in the census reports.† In addition, a considerable amount of supplementary

* Prepared in the Merchandising and Services Division, Dominion Bureau of Statistics.

† Vol. VI (Pt. 1) Census of Merchandising; Retail Trade (Series 6.1). Vol. VI (Pt. 2) Census of Merchandising Wholesale Trade; Services (Series 6.2). Special subject series.

information on the censuses of merchandising and service establishments may be found in *Trends in Canadian Marketing*, one of a series of Census Monographs commissioned by the Dominion Bureau of Statistics following the 1961 Census.* This study attempts to identify and explain long-run changes in Canada's distribution system as revealed by DBS data.

Each census of merchandising and service establishments forms a new base for intercensal monthly, quarterly and annual surveys, which are sample surveys for some businesses and full coverage for others. Because of the need for more frequent survey bases, it was considered advisable to take a less detailed census every five years instead of every ten, and to place more emphasis on the sample surveys during the intercensal period for the collection of detail such as commodity content of sales to retailers, gross margin data and the analysis of sales by type of buyer. The first quinquennial census was taken in 1966, data from which will become available about mid-1968. The principal statistics derived from that census will be included in the 1969 Year Book. This Section contains current intercensal information on the distributive trades.

Retail Trade

The trend of retail trade is one of the best general indicators of the economic condition of the country. It is through retail stores that most goods are ultimately sold and such sales reflect the financial strength of the consumer except in times of short supply. The value of retail sales, estimated from intercensal sample surveys, increased by 29 p.c. during the period 1963-67. Estimates, by province and by kind of business, for 1963-67, not adjusted for price changes, are shown in Table 1.

* By G. Snyder, Director, Merchandising and Services Division, DBS, in collaboration with Prof. M. S. Moyer, York University. Queen's Printer, Ottawa. \$4. 322 p. (Catalogue No. 99-543/1967).

1.—Retail Trade, by Province and by Kind of Business, 1963-67

Province and Kind of Business	1963 ¹	1964 ¹	1965 ¹	1966	1967 ²
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Province					
Atlantic Provinces.....	1,502	1,602	1,743	1,799	1,895
Quebec.....	4,764	5,108	5,515	5,708	6,107
Ontario.....	6,903	7,299	7,951	8,437	8,870
Manitoba.....	837	887	937	1,005	1,084
Saskatchewan.....	837	912	967	1,024	1,060
Alberta.....	1,422	1,503	1,599	1,736	1,870
British Columbia ¹	1,850	2,040	2,242	2,399	2,548
Canada²	18,116	19,351	20,951	22,108	23,434
Kind of Business					
Grocery and combination stores.....	4,095	4,356	4,655	4,918	5,219
All other food stores.....	872	718	767	796	824
Department stores.....	1,750	1,923	2,054	2,201	2,372
General stores.....	650	670	700	770	817
Variety stores.....	419	463	550	598	676
Motor vehicle dealers.....	3,163	3,379	3,847	3,915	3,955
Service stations and garages.....	1,686	1,788	1,903	1,974	2,106
Men's clothing stores.....	292	315	333	344	354
Women's clothing stores.....	341	363	385	409	434
Family clothing stores.....	256	269	288	302	324
Shoe stores.....	215	226	244	250	273
Hardware stores.....	316	328	344	387	415
Furniture, TV, radio and appliance stores.....	612	643	701	747	794
Fuel dealers.....	381	357	362	393	420
Drug stores.....	505	538	586	615	664
Jewellery stores.....	164	180	194	202	218
All other stores.....	2,600	2,834	3,041	3,287	3,569

¹ Includes the Yukon and Northwest Territories, because of rounding.

² Totals are not the exact addition of the components

New Motor Vehicle Sales.—As shown in Table 2, the value of new motor vehicles sold has continued to climb each year, reaching a peak of \$2,824,591,000 in 1966. A total of 827,431 cars, trucks and buses were sold that year, about 3,500 fewer than in 1965.

2.—Retail Sales of New Motor Vehicles, 1957-66

Year	Passenger Cars		Trucks and Buses		Totals	
	No.	\$	No.	\$	No.	\$
1957.....	382,023	1,087,620,000	76,276	281,311,000	458,299	1,368,931,000
1958.....	376,723	1,110,724,000	68,046	254,742,000	444,769	1,365,466,000
1959.....	425,038	1,240,961,000	77,588	299,207,000	502,626	1,540,168,000
1960.....	447,771	1,289,073,000	75,417	285,754,000	523,188	1,574,827,000
1961.....	437,319	1,290,026,000	74,160	261,382,000	511,479	1,551,408,000
1962.....	502,565	1,482,407,000	82,645	300,509,000	585,210	1,782,916,000
1963.....	557,787	1,716,121,000	97,202	345,913,000	654,989	2,062,039,000
1964.....	616,759	1,936,258,000	109,120	401,544,000	725,879	2,337,802,000
1965.....	708,716	2,267,314,000	122,279	472,015,000	830,995	2,739,329,000
1966.....	694,820	2,274,083,000	132,611	550,508,000	827,431	2,824,591,000

Shopping Centres.—Results of the tenth annual survey of retail outlets in shopping centres throughout Canada show that, in 1965, 9.0 p.c. of all retailing activity took place in such centres, compared with 2.5 p.c. in 1957. For purposes of the survey, a shopping centre is defined, briefly, as "A group of stores which are planned, developed and designed as a unit . . . contain a minimum of five retail establishments . . . have a minimum of 20,000 square feet of usable parking area adjacent to it . . . contain either a grocery and combination store, a department store or a chain variety store. All establishments do not necessarily have to be leased from a single (private or collective) ownership . . .".

3.—Retail Trade within Shopping Centres, 1961-65

Item	1961	1962	1963	1964	1965
Stores.....No.	3,961	4,314	4,645	4,999	5,349
Independent.....No.	2,327	2,546	2,781	3,010	3,207
Department.....	37	51	55	60	69
Chain....."	1,597	1,717	1,809	1,929	2,073
Sales.....\$	994,207,170	1,172,112,186	1,340,188,739	1,587,896,471	1,865,333,934
Independent.....\$	193,249,541	218,572,149	253,801,695	291,349,141	339,416,357
Department.....\$	172,717,592	225,675,411	266,677,789	343,226,341	424,725,192
Chain.....\$	628,240,037	727,864,626	819,709,255	953,320,989	1,101,192,385

There were 24 new shopping centres in operation in 1965, an increase partly offset by the loss of seven centres which did not meet the definition requirements. The net result was an increase of 17 centres, raising the total from 369 to 386. Of the 17.5-p.c. increase in sales volume in 1965 over 1964, 22.6 p.c. was accounted for by the 24 new centres and the remainder was contributed by increases in the number of stores and the volume of sales in existing centres.

There is a continuing trend in the relationship between size of shopping centre and sales. In 1965, centres of 5-15 stores made up 72.8 p.c. of the total number and contributed 35.2 p.c. of the total sales, while centres with 31 or more stores made up only 8.3 p.c. of the total number but were responsible for 36.3 p.c. of the sales. The continued importance of regional shopping centres is due in large measure to the heavy concentration of suburban department store branches in these centres; in 1965, the 34 department store

outlets in the larger centres accounted for 45.3 p.c. of the total sales in this type of development. All trades represented in shopping centres continued to experience substantial gains in sales volume during 1965.

4.—Summary Statistics of Shopping Centres, by Type, 1965

Item		Centres with—			Total
		5-15 Stores	16-30 Stores	31+ Stores	
Shopping Centres	No.	281	73	32	386
Newfoundland.....	No.	—	1	—	1
Nova Scotia.....	"	6	1	1	8
New Brunswick.....	"	3	—	—	3
Quebec.....	"	41	27	6	74
Ontario.....	"	126	32	17	175
Manitoba.....	"	9	1	1	11
Saskatchewan.....	"	11	2	—	13
Alberta.....	"	39	4	4	47
British Columbia.....	"	46	5	3	54
Stores	No.	2,481	1,592	1,276	5,349
Independent.....	No.	1,733	855	619	3,207
Chain (incl. department stores).....	"	748	737	657	2,142
Sales	\$	657,389,367	531,577,894	676,366,673	1,865,333,934
Independent.....	\$	172,365,535	87,511,202	79,539,620	339,416,357
Chain (incl. department stores).....	\$	485,023,832	444,066,692	596,827,053	1,525,917,577
Grocery and combination stores.....	\$	375,653,649	210,698,613	124,906,651	711,258,913
All other food stores.....	\$	12,893,235	9,624,641	8,225,401	30,743,277
Department stores.....	\$	39,003,623	79,192,289	306,529,280	424,725,192
Variety stores.....	\$	49,529,534	66,020,536	31,599,551	147,149,621
Garages and service stations.....	\$	10,129,678	2,290,606	2,061,622	14,481,906
Men's clothing stores.....	\$	7,317,865	11,651,745	16,616,112	35,585,722
Family clothing stores.....	\$	5,741,069	9,078,073	8,160,632	22,979,774
Women's clothing stores.....	\$	12,679,455	21,501,822	34,043,266	68,224,543
Shoe stores.....	\$	8,891,911	13,968,842	16,021,880	38,882,633
Hardware stores.....	\$	10,217,805	10,183,740	11,360,175	31,731,720
Furniture, appliance and radio stores.....	\$	6,174,301	6,324,489	9,449,314	21,998,104
Restaurants.....	\$	11,987,776	10,207,203	11,273,714	33,468,693
Drug stores.....	\$	42,785,272	19,366,187	11,468,929	73,640,388
Jewellery stores.....	\$	2,722,581	3,913,973	7,840,127	14,476,681
Miscellaneous.....	\$	61,661,613	57,555,135	76,770,019	195,986,767

Vending Machine Operators.—The Dominion Bureau of Statistics undertakes an annual survey designed to measure the value of sales through automatic vending machines owned or operated by vending machine operators. In 1966, such sales reached a high of \$107,539,600, a figure 19.7 p.c. above that of the previous year. The 769 vending machine firms engaged in this business operated more than 84,000 merchandise vending machines in a wide variety of locations across the country. In addition, they utilized 523 micro-wave and infra-red ovens and 1,203 coin and bill changers in the course of their operations.

5.—Vending Machine Operators, 1958-66

Year	Firms	Machines	Sales
	No.	No.	\$
1958.....	432	34,464	26,331,400
1959.....	479	40,237	33,741,900
1960.....	521	47,770	38,710,800
1961.....	579	65,028	44,959,700
1962.....	600	73,397	57,799,200
1963.....	673	78,477	67,580,000
1964.....	651	75,392	78,561,800
1965.....	764	85,091	89,815,400
1966.....	769	85,880 ¹	107,539,600

¹ Includes micro-wave and infra-red ovens and coin and bill changers.

Wholesale Trade

Total sales of wholesalers, estimated from the results of intercensal sample surveys, have increased continuously over the past several years, reaching a new high in 1967 of \$13,526,000,000, about 4 p.c. higher than in 1966. As shown in Table 6, all business groups except "Meat and dairy products" and "Coal and coke" reported increases over the previous year. These estimates represent only the sales of wholesalers proper, the operations of agents and brokers as well as those of manufacturers' sales branches being excluded.

6.—Wholesale Sales, by Kind of Business, 1963-67

NOTE.—Includes only wholesalers proper, i.e., firms performing the function of buying merchandise on their own account for resale.

Kind of Business	1963	1964*	1965*	1966	1967	Percentage Change 1966-67
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	
Fresh fruits and vegetables.....	321	348	360	372	387	+4.2
Groceries and food specialties.....	1,982	2,092	2,258	2,417	2,570	+6.4
Meat and dairy products.....	179	190	221	250	241	-3.4
Clothing and furnishings.....	105	112	115	118	125	+6.1
Footwear.....	42	44	46	48	49	+1.7
Other textile and clothing accessories.....	212	228	236	235	244	+3.6
Drugs and drug sundries.....	260	286	309	344	368	+6.8
Household electrical appliances.....	212	233	277	322	352	+9.2
Farm machinery.....	83	100	113	128	130	+1.7
Coal and coke.....	152	155	158	136	132	-3.1
Hardware.....	358	391	390	416	422	+1.4
Construction materials and supplies including lumber.....	838	932	982	1,081	1,125	+4.0
Industrial and transportation equipment and supplies.....	825	973	1,145	1,285	1,288	+0.3
Commercial, institutional and service equipment and supplies.....	142	150	162	193	221	+14.9
Automotive parts and accessories.....	455	460	486	524	568	+8.3
Newsprint, paper and paper products.....	335	371	388	439	449	+2.3
Tobacco, confectionery and soft drinks.....	809	828	882	951	1,058	+11.2
Other.....	2,885	3,136	3,747	3,732	3,797	+1.7
Totals, All Trades.....	10,195	11,029	12,275	12,991	13,526	+4.1

Farm Implement Sales.—The value, at wholesale prices, of new farm implements and equipment sold in 1966 amounted to \$416,914,000, an increase of 12.3 p.c. over the value of such sales in 1965. Increases occurred in all regions of Canada and in all major groups of implements except haying machinery, harvesting machinery and dairy machinery and equipment. In addition to the amount spent on new machinery, \$61,990,000 was spent in 1966 for repair parts, 11.4 p.c. more than in 1965.

7.—Sales of Farm Implements and Equipment, by Province and by Major Group, 1962-66

(Values at wholesale prices)

Province	1962	1963	1964	1965	1966	Percentage Change 1965-66
	\$'000	\$'000	\$'000	\$'000	\$'000	
Atlantic Provinces.....	6,722	6,712	8,044	9,049	11,259	+24.4
Quebec.....	32,555	35,063	32,633	31,664	38,874	+22.8
Ontario.....	50,886	59,769	69,385	72,936	87,085	+19.4
Manitoba.....	28,054	35,916	45,230	49,341	55,774	+13.0
Saskatchewan.....	59,348	82,666	96,366	118,768	126,201	+ 6.3
Alberta.....	55,294	61,930	68,149	82,218	89,403	+ 8.7
British Columbia.....	5,938	5,783	7,169	7,348	8,318	+13.2
Totals.....	238,797	287,839	326,976	371,324	416,914	+12.3

7.—Sales of Farm Implements and Equipment, by Province and by Major Group, 1962-66— concluded

Major Group	1962	1963	1964	1965	1966	Percentage Change 1965-66
	\$'000	\$'000	\$'000	\$'000	\$'000	
Tractors and engines.....	80,631	97,678	114,067	122,021	149,467	+22.5
Ploughs.....	10,969	12,934	15,877	17,228	19,659	+14.1
Tilling, cultivating and weeding machinery...	15,363	18,050	21,106	23,537	28,807	+22.4
Planting, seeding and fertilizing machinery.....	9,477	11,380	14,447	15,743	20,117	+27.8
Haying machinery.....	32,214	31,425	30,867	29,984	29,853	- 0.4
Harvesting machinery.....	57,626	78,182	85,645	113,074	110,032	- 2.7
Machines for preparing crops for market or for use.....	7,658	10,043	11,313	12,894	15,378	+19.3
Farm wagons, wagon trucks and sleighs ¹	1,770	2,610	3,571	4,376	5,740	+31.2
Barn equipment.....	5,892	6,289	7,268	7,387	10,078	+36.4
Dairy machinery and equipment ²	5,621	4,993	9,342	8,025	6,816	-15.1
Spraying and dusting equipment.....	1,828	2,271	2,439	2,385	3,406	+42.8
Miscellaneous farm equipment.....	9,748	11,984	11,034	14,670	17,561	+19.7
Totals.....	238,797	287,839	326,976	371,324	416,914	+12.3

¹ This item designated as "Farm wagons, boxes and sleighs" in 1964.
dairy machinery and equipment" in 1964.

² This item designated as "Farm

Service Trades

Hotels.—In 1965 there were 4,846 hotels in operation in Canada, 4,313 of them full-year hotels and 533 seasonal. Table 8 shows the provincial distribution of these establishments, together with the sources of their revenue for 1965, with totals for 1961-65.

8.—Hotels and Their Receipts, by Source, 1961-65, and by Province, 1965

Year and Province or Territory	Hotels	Rooms	Receipts				
			Rooms	Meals	Beer, Wine and Liquor	All Other Sources	Total ¹
	No.	No.	\$'000	\$'000	\$'000	\$'000	\$'000
1961.....	5,128	159,674	130,077	104,024	285,125	48,537	567,762
1962.....	4,983	152,467	135,751	112,306	295,868	43,764	587,689
1963.....	4,787	150,687	141,264	122,165	314,027	45,144	622,601
1964.....	4,976	155,657	157,381	139,281	341,407	48,687	686,756
1965.....	4,846	154,959	173,506	156,035	359,442	51,030	740,013
Province, 1965							
Newfoundland.....	68	1,427	2,087	1,464	2,824	448	6,823
Prince Edward Island.....	12	415	380	305	54	51	790
Nova Scotia.....	91	3,325	4,535	2,699	1,613	970	9,817
New Brunswick.....	63	2,609	2,897	1,975	877	545	6,294
Quebec.....	1,673	45,800	45,976	41,258	87,940	11,909	187,083
Ontario.....	1,259	44,738	57,018	54,827	102,304	15,565	229,714
Manitoba.....	270	7,947	7,572	8,424	35,725	3,569	55,290
Saskatchewan.....	427	10,429	7,360	6,070	35,258	3,230	51,918
Alberta.....	454	16,499	18,107	13,429	40,293	7,335	79,164
British Columbia and Yukon and Northwest Territories.....	529	21,770	27,574	25,584	52,554	7,408	113,120

¹ Components may not add to totals because of rounding.

Restaurants.—Restaurants, caterers, cocktail lounges and taverns, formerly a part of the retail trades, were transferred in 1960 (as a result of revisions in the standard industrial classification) to the service trades sector. A DBS monthly bulletin *Restaurant Statistics*, commenced in July 1967, shows receipts of the following trades: eating places, eating places with alcoholic beverages, eating places with other merchandise, fish and chip shops, eating places with motel and/or cabins, and eating places with alcoholic beverages with motel and/or cabins.

Total receipts of these types of eating places have grown from \$852,735,000 in 1962 to \$1,062,588,000 in 1966, an increase of 24.6 p.c. over the five years. The largest percentage growth took place in Newfoundland (39.2 p.c.) Nova Scotia (38.4 p.c.) and British Columbia (32.9 p.c.) but the largest value increase took place in Quebec where restaurant receipts rose from \$290,000,000 to \$382,000,000.

9.—Restaurant Receipts, by Province, 1962-66

Province or Territory	1962	1963	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	6,547	6,965	8,048	8,885	9,112
Prince Edward Island.....	2,567	2,670	2,908	2,982	3,166
Nova Scotia.....	20,597	22,219	24,309	27,027	28,497
New Brunswick.....	14,863	14,689	16,479	17,312	17,704
Quebec.....	289,616	307,588	333,063	362,061	381,728
Ontario.....	300,200	312,365	325,398	340,578	363,175
Manitoba.....	42,991	44,498	45,438	46,551	48,203
Saskatchewan.....	37,648	39,030	38,468	38,598	39,932
Alberta.....	63,026	64,795	60,670	64,098	71,843
British Columbia and Yukon and Northwest Territories.....	74,680	77,010	78,014	90,211	99,228
Canada.....	852,735	891,829	932,795	998,303	1,062,588

Motion Picture Theatres.—In 1966, the receipts of motion picture theatres, both regular and drive-in, reached their highest level of the past decade. The \$94,366,239 received in admissions was 10.8 p.c. higher than in 1965. Amusement taxes, which amounted to \$6,517,892, increased at a somewhat faster rate (16.7 p.c.). These increases were divided fairly evenly between the two types of theatres; those of regular motion picture houses rose by 10.1 p.c. and those of drive-in theatres by 11.6 p.c. In contrast, the total number of admissions declined for the second successive year, dropping 1 p.c. to 98,959,208 for all types of theatres in 1966. An increase of nearly 500,000 in admissions to drive-ins was more than offset by a drop of over 1,400,000 in those to regular theatres.

10.—Summary Statistics of Motion Picture Theatre Operations, 1965 and 1966

Item	1965			1966		
	Regular	Drive-in	Total	Regular	Drive-in	Total
Establishments..... No.	1,171	247	1,418	1,149	245	1,394
Receipts..... \$	75,371,826	9,790,408	85,162,234	83,004,592	11,361,647	94,366,239
Amusement taxes..... \$	5,082,144	504,822	5,586,966	5,851,617	666,275	6,517,892
Paid admissions..... No.	89,134,806	10,779,933	99,914,739	87,694,046	11,265,162	98,959,208

Film Distributors.—During 1966, films were distributed by 62 companies through 126 offices located across Canada. These exchanges had total receipts of \$53,389,163 in 1966 compared with \$47,137,047 in the previous year, and paid \$4,425,247 in salaries and wages to 813 employees.

Receipts from the rental of films increased by \$6,832,382 during 1966 to reach a new high of \$53,039,160. Revenue derived from rentals for theatrical use amounted to \$33,966,529, for television use \$18,136,463 and for other use \$936,168. In addition, \$40,258 was derived from the sale of advertising and \$309,745 from other sources. New films released for theatrical bookings numbered 984, of which 637 were feature films, 164 cartoons, 110 newsreels and 73 other short subjects. Of the feature films, 228 originated in the United States, 157 in France, 108 in Italy, 62 in Britain, 11 in Canada and 71 in other countries.

11.—Summary Statistics of Film Exchanges, 1965 and 1966

Item	1965	1966
Companies.....No.	63	62
Exchange offices....."	128	126
Average employees—		
Male.....No.	394	414
Female....."	373	399
Salaries and Wages—		
Male.....\$	2,743,629	3,049,039
Female.....\$	1,268,080	1,376,208
Receipts—		
Film rentals.....\$	46,206,778	53,039,160
Sale of advertising.....\$	85,503	40,258
Other sources.....\$	844,766	309,745

Motion Picture Production.—In 1966, there were 82 private firms and eight government agencies engaged principally in the production and printing of motion picture films and filmstrips for industry, government, education and entertainment. The 82 private firms, which exclude television stations, employed 944 persons, paid \$4,852,789 in salaries and wages and had a gross revenue of \$17,943,784, the latter about 26 p.c. higher than in 1965. In addition, 10 firms in other business categories produced 355 films including 41 information or documentary films for television use, 18 non-theatrical films, 25 silent motion picture films, 176 commercial advertising films for television, 88 other films for unspecified use, six silent filmstrips and one sound filmstrip. These firms derived \$215,995 in revenue from motion picture production.

Table 12 provides summary data of motion picture production in 1965 and 1966, by private industry and government agencies and by type of film produced. In total, in 1966, private and government agencies printed 62,005,774 feet of 16 mm. film in black and white, 26,312,596 feet of 16 mm. film in colour, 11,591,627 feet of 35 mm. film in black and white and 5,088,060 feet of 35 mm. film in colour. There were 42 sound motion pictures of five minutes or longer made for other than Canadian sponsors.

12.—Private Industry and Government Motion Picture Production, by Type of Film, 1965 and 1966

Year and Type of Production	Private Industry				Government	Private and Government
	Quebec	Ontario	Other Provinces	Total		
	No.	No.	No.	No.	No.	No.
1965						
Films in English or French	983	4,817	870	6,670	980	7,650
Theatrical features, 60 minutes or longer.....	—	—	—	—	4	4
Theatrical shorts, less than 60 minutes.....	18	4	—	22	22	44
Television entertainment.....	74	98	7	179	8	187
Television, information or documentary.....	4	78	44	126	261	387
Non-theatrical (also non-TV) motion pictures	18	127	47	192	98	290
Silent motion pictures.....	—	263	130	393	19	412
Television commercials (two minutes or less)	321	2,936	529	3,786	1	3,787
Theatre commercials (two minutes or less)..	7	—	2	9	—	9
Other (newsreels, newsclips, trailers, titles, production services, etc.).....	524	1,308	108	1,940	480	2,420
Silent filmstrips (slide films).....	—	—	—	—	77	77
Sound filmstrips (slide films) with records..	17	3	3	23	10	33
Films in Other than English or French.....	4	4	1	9	80	89
1966						
Films in English or French	1,660	5,327	397	7,384	1,025	8,409
Theatrical features, 60 minutes or longer.....	3	—	—	3	3	6
Theatrical shorts, less than 60 minutes.....	2	3	1	6	38	44
Television entertainment.....	84	7	15	106	—	106
Television, information or documentary.....	210	162	14	386	161	547
Non-theatrical (also non-TV) motion pictures	22	184	33	239	92	331
Silent motion pictures.....	—	98	105	203	116	319
TV commercials (two minutes or less).....	188	2,785	194	3,167	—	3,167
Theatre commercials (two minutes or less)..	8	—	—	8	—	8
Other (newsreels, newsclips, trailers, titles, production services, etc.).....	1,143	2,072	34	3,249	612	3,861
Silent filmstrips (slide films).....	—	7	—	7	3	10
Sound filmstrips (slide films) with records..	—	9	1	10	—	10
Films in Other than English or French.....	—	16	1	17	88	105

Power Laundries and Dry Cleaning and Dyeing Plants.—In 1965 the combined receipts of laundries and dry cleaning and dyeing plants rose by 8.9 pc. over 1964, reaching \$226,547,054. A total of 2,248 plants employed 33,654 people and paid out \$104,593,378 in salaries and wages. The cost of materials and supplies used in such operations amounted to \$22,650,779.

13.—Summary Statistics of Power Laundries and Dry Cleaning and Dyeing Plants, 1963-65

Item	Power Laundries			Dry Cleaning and Dyeing Plants		
	1963	1964	1965	1963	1964	1965
Plants.....No.	367	362	352	1,796	1,826	1,896
Employees.....	13,701	13,815	13,767	18,046	18,688	19,887
Male.....	4,592	4,716	4,635	7,163	7,278	7,405
Female.....	9,109	9,099	9,132	10,883	11,410	12,482
Salaries and wages.....\$	37,565,355	40,919,190	42,213,066	50,595,772	55,395,119	62,380,312
Cost of materials and supplies.....\$	7,648,246	7,799,103	7,397,538	12,646,049	13,774,406	15,253,241
Receipts—						
Laundry.....\$	34,312,964	35,485,041	36,172,076	84,973,052	91,741,137	104,287,317
Cleaning.....\$	11,680,919	12,946,488	13,492,593	16,990,611	19,269,217	22,156,492
Rental services.....\$	29,676,970	32,522,446	35,459,185	6,515,144	7,043,757	5,805,065
All others.....\$	3,623,751	4,295,205	4,565,954	4,232,456	4,695,420	4,608,372
Totals, Receipts.....\$	79,294,604	85,249,180	89,689,808	112,711,263	122,749,531	136,857,246
By Province—						
Newfoundland.....\$	558,392	575,089	579,323	1,374,990	1,429,551	1,520,183
Prince Edward Island...\$				452,648	434,896	473,300
Nova Scotia.....\$	1,531,094	1,244,905	1,247,964	3,610,131	4,098,590	4,241,847
New Brunswick.....\$	1,285,350	1,437,694	1,538,542	2,195,056	2,330,439	2,413,738
Quebec.....\$	21,881,623	23,079,960	23,384,583	26,989,484	29,439,390	32,614,109
Ontario.....\$	32,336,469	34,524,910	36,701,506	47,767,040	53,271,645	59,645,658
Manitoba.....\$	2,390,857	2,490,678	2,391,104	8,238,115	8,387,985	9,163,208
Saskatchewan.....\$	1,459,920	1,641,605	1,730,285	3,838,470	4,373,962	4,819,508
Alberta.....\$	5,366,236	6,645,440	7,507,408	9,708,784	9,656,661	10,600,637
British Columbia.....\$	12,484,663	13,608,899	14,609,093	8,556,545	9,326,412	11,365,058

Advertising Agencies and Expenditures.—Table 14 records the growth of business done by advertising agencies during 1965 as compared with the four previous years.

14.—Summary Statistics of Advertising Agencies, 1961-65

Item	1961	1962	1963	1964	1965
Billings.....\$	282,561,449	298,584,954	302,851,514	318,140,339	362,559,347
Commissionable billings.....\$	277,806,963	293,028,021	296,762,297	311,332,070	354,650,007
Other.....\$	4,755,486	5,556,933	6,089,217	6,808,269	7,909,340
Gross revenue.....\$	46,089,647	49,348,113	50,465,061	53,591,932	60,994,714
Distribution of Billings—					
Publications.....p.c.	45.5	44.0	42.2	40.4	39.5
Production, artwork, etc.....	19.0	17.2	16.2	18.4	18.9
Radio.....	9.4	10.8	10.7	10.5	10.4
Television.....	21.4	22.8	26.3	26.7	27.4
Other visual.....	4.6	5.1	4.6	3.9	3.7
Other.....	0.1	0.1	--	0.1	0.1

The ratio of advertising expenditures to value of factory shipments, by industry group, is available for the first time for 1965 and is given in Table 15. It should be noted that the selling value of factory shipments as used for purposes of this table is *net* value, after adjustment for returned goods, discounts, allowances, sales and excise taxes, duties, returnable containers and charges for outward transportation by common or contract carriers.

15.—Advertising Expenditures as a Percentage of Value of Factory Shipments, by Industry Group, 1965

Industry Group	Ratio of Advertising to Value of Shipments	Industry Group	Ratio of Advertising to Value of Shipments
	p.c.		p.c.
Foods and beverages.....	2.03	Tobacco products.....	3.36
Rubber.....	1.27	Leather.....	0.90
Textile.....	0.81	Knitting mills.....	1.09
Clothing.....	1.01	Wood.....	0.13
Furniture and fixtures.....	1.09	Paper and allied industries.....	0.36
Printing, publishing and allied industries..	1.02	Primary metal.....	0.16
Metal fabricating (except machinery and transportation equipment).....	0.62	Machinery (except electrical machinery) ..	0.84
Transportation equipment.....	0.90	Electrical products.....	1.15
Non-metallic mineral products.....	0.55	Petroleum and coal products.....	1.15
Chemicals and chemical products.....	3.84	Miscellaneous manufacturing.....	2.17

Credit Statistics

Sales Financing.—Although outstanding balances of sales finance companies reached a new high of \$1,852,000,000 at the end of 1966, the value of new paper purchases during the year, at \$1,526,000,000, was more than 3 p.c. lower than in 1965. This decline in the rate of acquisition of financial paper, the first since 1960-61, was attributable for the most part to a drop of nearly \$58,000,000 or 17.6 p.c. in new paper purchases for non-vehicular commercial goods, and to smaller declines for used passenger cars and commercial vehicles and non-vehicular consumer goods. The only exceptions occurred in the financing of new passenger cars and commercial vehicles. The balances outstanding of sales finance companies were higher at the end of 1966 for every class of goods except non-vehicular commercial goods, which declined by nearly 8 p.c.

16.—Retail Instalment Paper Purchased and Balances Outstanding, by Class of Goods, 1962-66

(Millions of dollars)

Class of Goods	Paper Purchased					Balances Outstanding Dec. 31—				
	1962	1963	1964 ¹	1965	1966	1962	1963	1964 ¹	1965	1966
Consumer Goods	851	925	1,029	1,068	1,058	801	874	1,035	1,131	1,184
New passenger cars.....	381	442	511	563	570	609	687	809	901	949
Used passenger cars.....	265	288	319	313	298					
Radio and television sets, household appliances, furniture and other.....	205	195	199	192	190					
Commercial and Industrial	378	420	478	509	468	440	519	588	665	668
New commercial vehicles.....	94	108	123	129	147	151	170	197	216	254
Used commercial vehicles.....	49	51	51	51	51					
Other.....	235	261	303	328	270					
Totals¹	1,229	1,345	1,507	1,577	1,526	1,241	1,393	1,624	1,796	1,852

¹ Totals are not the exact addition of the components because of rounding of the figures.

Consumer Credit.—Total balances outstanding on credit extended to consumers by retail stores and selected financial institutions have increased rapidly during the past decade, passing the \$7,000,000,000-mark by the end of 1965 and reaching an estimated

\$8,400,000,000 by the end of 1967. Although the data in Table 17 do not include all possible sources of consumer credit, such as service credit and loans between individuals, returns from the selected holders, which include credit extended to individuals for the purchase of consumer goods and services or for other than commercial purposes, indicate that balances outstanding have nearly tripled since 1957.

17.—Consumer Credit Balances Outstanding, by Selected Holders, 1957-67¹

(Millions of dollars)

Year	Retail Trade Credit	Sales Finance Companies	Small Loans Companies	Life Insurance Companies Policy Loans	Chartered Banks ²	Credit Unions	Other Credit Holders ³	Total
1957.....	824	780	362	295	421	258	36	2,976
1958.....	860	768	401	305	553	320	41	3,248
1959.....	916	806	484	323	719	397	46	3,691
1960.....	960	828	549	344	857	433	49	4,020
1961.....	1,005	756	594	358	1,030	516	56	4,315
1962.....	1,039	801	714	372	1,183	579	62	4,750
1963.....	1,088	874	810	385	1,432	691	67	5,347
1964.....	1,147	1,035	904	398	1,793	836	74	6,187
1965.....	1,216	1,131	1,043	411	2,186	987	88	7,062
1966.....	1,260	1,184	1,163	450	2,402	..	104	..
1967 ¹	1,156	1,161	1,240	472	2,808	..	130	..

¹ 1967 figures are as at Sept. 30.

² Includes personal loans other than secured loans, home improvement loans and mortgages.

³ Includes Quebec savings banks loans and oil company credit card balances.

Retail Credit.—The increase in accounts outstanding on the books of retailers over the ten years 1957-66 is shown in Table 18.

18.—Retail Credit 1957-66, and by Kind of Business, 1966

Year	Accounts Receivable (at end of period)	Kind of Business	Accounts Receivable (at end of period)		
			Instal-ment	Charge	Total
	\$'000,000		\$'000,000	\$'000,000	\$'000,000
		1966			
1957.....	1,014.2 ¹	Grocery and combination stores ².....	..	..	36.9
1958.....	937.2	Department stores.....	..	..	599.1
1959.....	992.5	General stores.....	..	..	40.9
1960.....	1,037.6	Motor vehicle dealers.....	17.2	113.2	130.4
1961.....	1,088.2	Service stations and garages.....	..	..	32.3
1962.....	1,125.1	Men's clothing stores.....	10.2	16.3	26.5
1963.....	1,182.8	Women's clothing stores.....	4.7	12.8	17.5
1964.....	1,242.6	Family clothing stores.....	13.3	14.1	27.4
1965.....	1,323.8	Hardware stores.....	9.2	33.6	42.8
1966.....	1,373.5	Furniture, TV, radio and appliance stores.....	181.1	34.7	215.8
		Fuel dealers.....	4.7	55.4	60.1
		Jewellery stores.....	16.3	11.6	27.9
		All other stores.....	31.6	84.3	115.9
		Totals, All Trades.....	..	..	1,373.5

¹ Includes lumber and farm implement dealers, excluded in later years.

² Independent stores only.

Section 2.—The Marketing of Agricultural Products*

Subsection 1.—The Grain Trade, 1965-66

Stocks of the five major Canadian grains (wheat, oats, barley, rye and flaxseed) amounted to 747,364,000 bu. on Aug. 1, 1965, compared with 770,721,000 bu. on Aug. 1, 1964. Since estimated 1965 production of these grains was 1,324,378,000 bu., some 14 p.c. above the 1964 level of 1,156,951,000 bu., domestic supplies for the crop year 1965-66 amounted to 2,071,905,000 bu. compared with 1,927,831,000 bu. for the previous year. Marketings of the six major grains in the Prairie Provinces (including rapeseed) in 1965-66 totalled 769,493,000 bu., 14 p.c. above the previous year's level of 675,560,000 bu. and 34 p.c. above the ten-year (1954-55—1963-64) average of 572,514,000 bu. Deliveries of each of the six grains were above the previous year; for instance, wheat marketings, which accounted for 74 p.c. of the total deliveries, were 9 p.c. higher. Marketings of the six grains, with totals for 1964-65 and ten-year averages, respectively, in brackets were, in millions of bushels: wheat, 569.4 (524.5, 390.4); oats, 51.7 (41.0, 53.8); barley, 93.9 (75.0, 100.3); rye, 12.1 (7.3, 7.3); flaxseed, 23.7 (16.8, 16.1); and rapeseed, 18.8 (10.9, 6.7).

Marketings of wheat, oats and barley continued under the compulsory crop-year pools system of the Canadian Wheat Board. At the beginning of the marketing year, an initial quota of 100 units, as in the preceding year, was in effect at local delivery points. However, permit holders were entitled to deliver a maximum of 300 bu. of wheat *or* 500 bu. of barley *or* 500 bu. of rye *or* any combination of these grains which, when calculated on a unit basis, did not exceed 100. The initial quota was followed by general quotas based on bushels per specified acre; specified acreage consisted of each permit holder's acreage seeded to wheat (including Durum), oats, barley and rye, the summerfallow acreage and the acreage seeded to eligible grasses and forage crops. The first general quotas were established on Aug. 23, 1965 and were extended and increased as local country elevator space became available.

The initial delivery quota for rapeseed of the larger of 3 bu. per seeded acre *or* 150 bu., was increased on Sept. 27 to 5 bu. per seeded acre *or* 200 bu., on Nov. 1 to 8 bu. per seeded acre *or* 300 bu., on Dec. 13 to 12 bu. per seeded acre, and on Jan. 31, 1966 was declared open for the remainder of the 1965-66 crop year. The initial delivery quota for flaxseed of the larger of 3 bu. per seeded acre *or* 150 bu. was increased on Oct. 11 to 5 bu. per seeded acre *or* 250 bu., on Dec. 13 to 8 bu. per seeded acre *or* 400 bu. and on Jan. 31, 1966 was declared open for the remainder of the crop year. Rye, which was contained in the specified acreage, was placed on a supplementary quota of the larger of 5 bu. per seeded acre *or* 200 bu. on Dec. 28, and was declared open as of July 18, 1966.

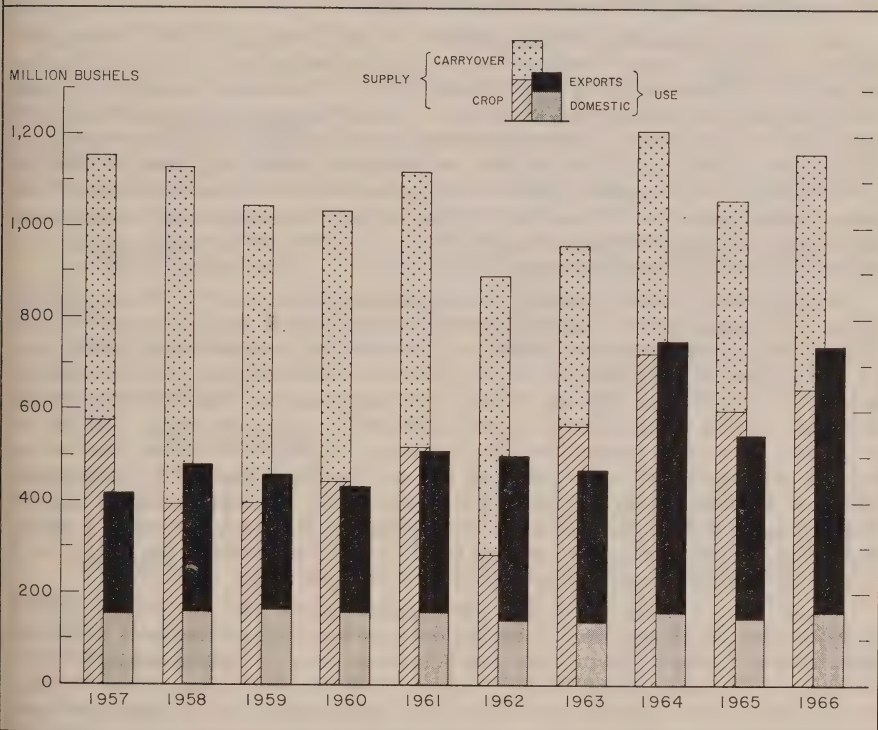
On Aug. 1, 1965, stocks of the six principal grains in store at both country and terminal elevators amounted to 510,300,000 bu., some 51,100,000 bu. more than at the same date of 1964. In 1965 the volume of high-moisture grain that required conditioning was very large and because of heavy commitments for dry grain for fall shipping, priority for the movement of high-moisture grain was not given until after the close of navigation. The Canadian Wheat Board, on Dec. 3, authorized an advance delivery of wheat, oats, barley and rye having a moisture content of 15.7 p.c. or over, up to 4 bu. per specified acre in excess of established quotas, provided such deliveries plus quota deliveries did not exceed 6 bu. per specified acre. This authorization was revised on Jan. 7, 1966 to 8 bu. per specified acre and on Mar. 10 to 10 bu. The necessity of moving this high-moisture grain disrupted the normal flow of dry grain and thus temporarily retarded the advancement of delivery quotas in certain areas. Delivery quotas were declared open on July 18,

* Prepared in the Agriculture Division, Dominion Bureau of Statistics.

1966 and remained so into the first three weeks of the following crop year, since there was a large volume of space available in country elevators and heavy sales commitments had to be met in the first part of the 1966-67 crop year.

Wheat.—Domestic supplies of wheat for the 1965-66 crop year totalled 1,161,948,000 bu., 10 p.c. above the 1,059,874,000 bu. of the previous year but 4 p.c. below the 1963-64 record of 1,210,692,000 bu. Both the 1965 carryover stocks of 513,024,000 bu. and the 1965 production of 648,917,000 bu. were higher than the 1964 levels of 459,440,000 bu. and 600,424,000 bu., respectively. Exports of wheat and flour, in terms of wheat, in 1965-66 amounted to 584,906,000 bu., slightly below the record 594,548,000 bu. exported in 1963-64 but sharply higher than both the ten-year average of 335,788,000 bu. and the long-term average of 275,567,000 bu. Domestic disappearance was 156,920,000 bu. compared with 147,256,000 bu. in 1964-65 and 156,704,000 bu. in 1963-64. Since the disappearance was above the 1965 production, carryover stocks at July 31, 1966 were down to 420,122,000 bu. compared with 513,024,000 bu. at the same date of 1965.

SUPPLY AND DISPOSITION OF CANADIAN WHEAT
CROP YEARS ENDED JULY 31, 1957-66



The initial payment in 1965-66 was \$1.50 per bu., basis No. 1 Northern in store Fort William-Port Arthur or Vancouver; there were no adjustments or interim payments on the 1965-66 wheat pool. Producers delivered 559,790,000 bu., including 18,932,000 bu.

of Durum, and the amount of the final payment distributed to producers was \$270,030,000, of which \$9,949,000 was distributed to producers of Durum wheat. After deducting the 1-p.c. Prairie Farm Assistance Act levy, the average final payment on spring wheat (other than Durum) was 48.087 cents per bu. and the average final payment on Durum grades was 52.549 cents per bu. The total payment for No. 1 Northern, basis in store Fort William-Port Arthur or Vancouver and before deduction of the PFAA levy, amounted to \$1.99699 per bu.

During 1965-66, the three-year International Wheat Agreement, which became effective Aug. 1, 1962, was extended for one year. Under the Agreement, sales continued to be quite widely distributed, with 28 of the 38 importing countries included in the pact purchasing wheat and/or flour from Canada. Under the terms of the Agreement, purchases of Canadian wheat and flour amounted to the equivalent of 197,882,000 bu. during 1965-66 and accounted for 27 p.c. of the total sales under the Agreement. The major importers of Canadian wheat under the Agreement were, in millions of bushels: Britain, 78.5; Federal Republic of Germany, 22.9; Belgium and Luxembourg, 10.8; Switzerland, 8.1; and Venezuela 6.3. The leading markets for Class II wheat and wheat flour were: the Soviet Union, 201.6; Mainland China, 74.0; Poland, 13.3; East Germany, 8.1; Italy, 7.7; and Czechoslovakia 7.5.

Other Grains.—The supply and disposition of the major Canadian grains for the crop years 1964-65 and 1965-66 are shown in Table 19.

As in 1964-65, the initial 1965-66 payment for oats, basis No. 2 C.W. in store Fort William-Port Arthur, was 60 cents per bu., and that for barley, basis No. 3 C.W. Six-Row in store Fort William-Port Arthur, was 96 cents per bu. No interim payments were made during the crop year on either oats or barley. The final payment on oats was \$12,314,000 and, based on 49,627,000 bu. delivered, averaged 24.8129 cents per bu. after deduction of the 1-p.c. PFAA levy. The final payment on barley was \$29,231,000, based on deliveries of 88,920,000 bu. and averaged 32.8729 cents per bu. after deduction of the levy. Total prices, basis in store Fort William-Port Arthur, realized by producers for representative grades prior to the levy were, per bushel: No. 2 C.W. oats, \$0.84516; No. 1 Feed oats, \$0.80187; No. 3 C.W. Six-Row barley, \$1.28594; and No. 1 Feed barley, \$1.19914.

During 1965-66, combined exports of oats, bagged seed oats, barley, rye, flaxseed and rapeseed (including customs exports of oatmeal and rolled oats, malt, rye flour and meal in terms of grain equivalent) amounted to 94,562,000 bu., a figure 17 p.c. higher than the 1964-65 level of 81,061,000 bu. but 2 p.c. lower than the ten-year (1954-55-1963-64) average of 96,760,000 bu. Exports of each of the five grains were higher than in the previous year; exports of oats in bulk totalled 15,252,000 bu. compared with 14,727,000 bu. in 1964-65. The major markets for this grain were, in millions of bushels: the Federal Republic of Germany, 6.8; the Netherlands, 4.9; and the United States, 1.1. Corresponding figures for 1964-65 were: 4.0, 5.2 and 2.5, respectively. In 1965-66, Britain received 638,000 bu. and Ireland, Belgium and Luxembourg, and Italy each received 500,000 bu. In addition, exports of Canadian oatmeal and rolled oats amounted to the equivalent of 401,000 bu. in 1965-66 compared with 435,000 bu. the year before.

Barley exports at 33,720,000 bu. were slightly higher than the 1964-65 level of 32,738,000 bu. Shipments went to the following destinations, with amounts in millions of bushels and figures for the previous year in brackets: Italy, 11.9 (2.4); Japan, 6.1 (8.9); Britain, 4.7 (9.8), United States 4.7 (7.7); Israel, 3.0 (0.6); the Federal Republic of Germany, 1.5 (nil); Austria, 0.7 (0.6); Norway, 0.6 (nil); the Netherlands, 0.3 (nil); Mainland China, nil (2.0); Ireland, nil (0.5). In addition, exports of malt were the equivalent of 4,309,000 bu., little changed from the 1964-65 figure of 4,280,000 bu., and were shipped to 27 destinations, the major markets being, in thousands of bushels: United States, 895; Britain, 613; Venezuela, 418; the Philippines, 383; Puerto Rico, 312; and Guatemala, 260.

In 1965-66, exports of Canadian rye, at 8,050,000 bu., were the highest since 1955-56 when they amounted to 12,918,000 bu. The principal markets in 1965-66 were, in thousands of bushels: the Netherlands, 2,331; Japan, 2,274; United States, 1,575; and Norway, 966.

In 1965-66, 18,936,000 bu. of Canadian flaxseed moved overseas, compared with 14,346,000 bu. in the previous year. The leading markets were, in thousands of bushels: Britain, 5,119; Japan, 4,308; the Netherlands, 3,732; and the Federal Republic of Germany, 2,033. Relatively smaller shipments went to some ten other overseas destinations. Exports of linseed oil, mainly to Britain, were equivalent to about 570,000 bu. of flaxseed.

Exports of rapeseed in 1965-66 amounted to a record 13,626,000 bu. in sharp contrast to the 9,274,000 bu. exported in the previous year. Major markets were, in thousands of bushels: Japan, 6,986; Italy, 2,804; the Netherlands, 1,470; the Federal Republic of Germany, 1,075; and Pakistan, 794. Mustard seed exports at 1,767,000 bu. were considerably higher than the 1,239,000 bu. exported in 1964-65 and went mainly to the United States, the Netherlands, Japan, and Belgium and Luxembourg.

19.—Supply and Disposition of Canadian Grain, Crop Years Ended July 31, 1965 and 1966

(Millions of bushels)

Item	Wheat	Oats	Barley	Rye	Flaxseed
Crop Year 1964-65					
Carryover, Aug. 1, 1964.....	459.4	179.4	118.3	7.1	6.6
Production in 1964.....	600.4	357.2	166.8	12.2	20.3
Imports ¹	2	2	2	0.1	2
Totals, Supply	1,059.9	536.6	285.1	19.4	26.9
Exports ³	399.6	15.6	37.0	4.9	14.3
Domestic use ⁴	147.3	390.9	159.3	6.2	5.4
Totals, Disposition	546.9	406.5	196.4	11.0	19.7
Carryover, July 31, 1965.....	513.0	130.1	88.8	8.3	7.1
Crop Year 1965-66					
Carryover, Aug. 1, 1965.....	513.0	130.1	88.8	8.3	7.1
Production in 1965.....	648.9	415.0	214.6	16.7	29.3
Imports ¹	2	2	0.1	2	2
Totals, Supply	1,161.9	545.1	303.5	25.0	36.4
Exports ³	584.9	15.9	38.0	8.1	18.9
Domestic use ⁴	156.9	402.0	187.7	6.4	6.3
Totals, Disposition	741.8	417.9	205.7	14.5	25.3
Carryover, July 31, 1966.....	420.1	127.2	97.8	10.6	11.1

¹ Includes flour in terms of wheat, rolled oats and oatmeal in terms of oats, malt and pot and pearl barley in terms of barley, and rye flour in terms of rye. ² Fewer than 50,000 bu. ³ Includes bagged seed wheat, wheat flour in terms of wheat, bagged seed oats, rolled oats and oatmeal in terms of oats, malt and pot and pearl barley in terms of barley, and rye flour and meal in terms of rye. ⁴ Includes human food, seed requirements, industrial use, loss in handling and animal feed.

20.—Production, Imports, Exports and Domestic Use of Wheat, Crop Years Ended July 31, 1961-66

(Millions of bushels)

Item	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66
Carryover, Aug. 1.....	599.6	607.8	391.1	487.2	459.4	513.0
Production.....	518.4	283.4	565.6	723.4	600.4	648.9
Imports.....	1	1	1	1	1	1
Totals, Supply.....	1,118.0	891.2	956.6	1,210.7	1,059.9	1,161.9
Exports ²	353.2	358.0	331.2	594.5	399.6	584.9
Domestic use.....	156.9	142.2	138.1	156.7	147.3	156.9
Totals, Disposition.....	510.1	500.2	469.4	751.3	546.9	741.8
Carryover, July 31.....	607.8	391.1	487.2	459.4	513.0	420.1

¹ Fewer than 50,000 bu.² Includes bagged seed wheat and wheat flour in terms of wheat.

Miscellaneous Grain Trade Statistics

Grain Handled at Eastern Elevators.—Total receipts of the five major grains at eastern elevators in the 1965-66 crop year amounted to 523,545,000 bu., 31 p.c. more than in the previous crop year. Shipments totalled 544,298,000 bu., an increase of 51 p.c. over the 1964-65 level of 360,388,000 bu.

21.—Canadian Grain Handled at Eastern Elevators, Crop Years Ended July 31, 1962-66

NOTE.—Figures for the crop years ended 1922-61 are given in the corresponding table of previous Year Books beginning with the 1931 edition.

Item and Crop Year	Wheat	Oats	Barley	Rye	Flaxseed	Total Grain
	bu.	bu.	bu.	bu.	bu.	bu.
Receipts—						
1961-62.....	243,025,206	18,252,519	21,412,213	3,202,174	7,197,612	293,089,724
1962-63.....	244,953,613	30,096,077	21,431,674	3,692,938	7,786,039	307,960,341
1963-64.....	425,500,798	34,575,280	31,431,415	2,726,233	7,301,269	501,534,995
1964-65.....	332,054,894	34,679,472	26,523,625	1,846,451	5,911,068	401,015,510
1965-66.....	440,515,042	36,369,468	36,727,865	3,590,874	6,341,684	523,545,933
Shipments—						
1961-62.....	258,787,935	19,494,745	23,530,370	3,227,310	7,098,689	312,139,049
1962-63.....	229,459,107	29,294,945	21,984,624	3,432,627	7,639,856	291,811,159
1963-64.....	474,419,208	35,481,811	31,076,245	2,658,662	7,260,962	550,896,888
1964-65.....	292,152,053	33,899,769	26,520,419	1,641,919	6,174,167	360,388,327
1965-66.....	464,113,311	35,130,369	35,506,689	3,489,923	6,057,491	544,297,783

Lake Shipments of Grain.—The 1966 navigation season opened at the Canadian Lakehead on Apr. 3 and closed on Dec. 20. During the season, shipments of wheat, oats, barley, rye, flaxseed, rapeseed and buckwheat totalled 494,591,000 bu., a 21-p.c. increase over the 410,298,000 bu. shipped during the 1965 navigation season which opened on Apr. 20 and closed on Dec. 16.

**22.—Lake Shipments of Canadian Grain from Fort William-Port Arthur,
Navigation Seasons 1965 and 1966**

Grain	1965				1966			
	To Canadian Ports	To U.S. Ports	To Overseas Ports	Total Shipments	To Canadian Ports	To U.S. Ports	To Overseas Ports	Total Shipments
Wheat.....bu.	294,809,502	—	6,124,430	300,933,932	386,769,523	736,827	4,860,187	392,366,537
Oats....."	35,710,134	276,739	10,070,780	46,057,653	30,759,970	119,515	2,224,934	33,104,419
Barley....."	35,745,657	5,177,207	5,421,569	46,344,433	36,131,770	4,898,866	3,979,049	45,009,685
Rye....."	1,762,604	1,487,880	952,908	4,203,392	4,101,206	2,031,417	2,379,176	8,511,799
Flaxseed....."	3,701,644	—	7,339,746	11,041,390	6,035,327	—	8,222,572	14,257,899
Rapeseed....."	100,733	—	1,236,584	1,337,317	253,829	—	995,683	1,249,512
Buckwheat....."	—	—	380,115	380,115	—	—	91,358	91,358
Totals.....bu.	371,830,274	6,941,826	31,526,132	410,298,232	464,051,625	7,786,625	22,752,959	494,591,209
Sunflower seed.bu.	—	—	94,873	94,873	—	—	39,379	39,379
Mustard seed...."	—	—	—	—	—	—	130,297	130,297
Screenings.....ton	71,175	—	62,888	134,063	93,197	—	103,555	196,762

Production and Exports of Wheat Flour.—Production of wheat flour in 1965-66 amounted to 43,531,000 cwt. and wheat milled for flour totalled 97,926,000 bu., representing increases of 11 p.c. and 12 p.c., respectively, over the previous year. Of the wheat milled for flour, approximately 85,942,000 bu. were Western Canadian spring wheat (other than Durum) and the remainder was made up of 7,146,000 bu. of Ontario winter wheat, 3,613,000 bu. of Durum wheat and 1,225,000 bu. of other types. Utilization of milling capacity, based on a daily operating potential of some 178,000 cwt., averaged 85.4 p.c. as against 76.7 p.c. in the previous year. Exports of wheat flour in 1965-66 amounted to 16,576,000 cwt., a figure approximately 21 p.c. higher than the 13,714,000 cwt. exported in 1964-65.

**23.—Wheat Milled for Flour, and Production and Exports of Wheat Flour, Five-Year
Averages 1940-60 and Crop Years Ended July 31, 1961-66**

Crop Year (Aug. 1—July 31)	Wheat Milled for Flour	Wheat Flour Production	Wheat Flour Exports	
			Amount	P.C. of Production
	'000 bu.	cwt.	cwt.	
Av. 1940-41 — 1944-45.....	99,705	43,908,245	23,699,546	54.0
Av. 1945-46 — 1949-50.....	107,330	47,011,540	25,819,721	54.9
Av. 1950-51 — 1954-55.....	100,446	43,847,894	21,812,041	49.7
Av. 1955-56 — 1959-60.....	90,148	39,752,589	16,349,155	41.1
1960-61.....	89,731	39,914,644	15,513,836	38.9
1961-62.....	88,241	39,539,651	13,892,676	35.1
1962-63.....	78,789	35,505,220	11,854,458	33.4
1963-64.....	111,671	50,103,569	23,873,987	47.6
1964-65.....	87,209	39,107,358	13,714,069	35.1
1965-66.....	97,926	43,531,263	16,576,117	38.1

Subsection 2.—Livestock Marketings*

The livestock industry was quite prosperous in 1966. Although the volume of commercial marketings was down for all classes of livestock, the value, as reported by the Canada Department of Agriculture, was the highest ever reached in Canada. The over-all average price for cattle and calves was substantially higher for all months of 1966 than for the corresponding months of 1965, resulting in an increase in the value of commercial marketings of \$165,000,000 over the previous year. The situation was about the same for the hog industry. Marketings were down but the increase in the average price of Grade B hogs at all stockyards by \$3.05 per cwt. to \$34.05 effectively raised the value of commercial marketings from \$343,000,000 to \$373,000,000. The average price of sheep and lambs was also higher than in the previous year but not enough to offset the decline in marketings. The result was a \$600,000 decrease in the value of commercial marketings.

In addition to cattle sold through public stockyards and directly to packing plants, there were 51,317 cattle reported shipped from country points in one province to country points in another, and 148,753 shipped direct on export, totalling 3,518,179. Alberta, Prince Edward Island and Newfoundland were the only provinces showing gains in marketings over 1965 but these gains were relatively small compared with the increases realized in 1965. Calf marketings like other types of livestock were down in 1966, the main feature being a 21.7-p.c. increase in the number returned to country feedlots. The average dressed weight per carcass of cattle slaughtered in inspected packing plants during the year was 545.5 lb., an increase of almost 12 lb. over the previous year and of 3.5 lb. over 1964. Choice and good beef accounted for 51.6 p.c. of total cattle gradings in 1966.

Hogs graded at inspected and approved packing plants in 1966 plus those exported direct from country points totalled 6,870,017, 3.0 p.c. below the previous year. Although increases were noted in seven provinces, reductions in marketings in Alberta, Saskatchewan and Ontario more than offset them. Hogs dressed 2 lb. heavier in 1966 and the proportion of total gradings, excluding sows and stags, classed as Grade A increased from 41.0 p.c. in 1965 to 41.9 p.c. in 1966.

* More detailed information is available from DBS annual report *Livestock and Animal Products Statistics* (Catalogue No. 23-203), and the Canada Department of Agriculture publication *Livestock Market Review*. Statistics of livestock and poultry production and disappearance are given on pp. 503-507.

24.—Livestock Marketed at Stockyards and Packing Plants, by Grade, 1962-66

Livestock	1962	1963	1964	1965 ¹	1966
	No.	No.	No.	No.	No.
Cattle	2,493,814	2,567,475	2,869,834	3,412,043	3,318,109
Steers— ²					
Choice.....	518,104	649,731	720,513	716,082	760,416
Good.....	272,379	273,428	313,813	292,940	308,920
Medium.....	160,971	155,543	172,691	208,793	173,325
Common.....	56,404	51,916	74,095	93,732	54,720
Heifers— ²					
Choice.....	101,667	113,706	137,161	167,166	195,352
Good.....	105,913	103,383	131,006	169,994	183,809
Medium.....	112,796	107,274	115,452	160,974	141,458
Common.....	56,673	50,095	59,495	90,286	62,514
Cows.....	642,781	590,797	629,904	845,352	823,093
Bulls.....	69,515	60,754	65,486	78,977	67,808
Feeder steers.....	307,883	323,417	355,879	435,847	393,315
Stock and feeder cows and heifers.....	88,728	87,431	94,339	151,900	153,379
Calves	984,237	916,068	983,616	1,182,623	1,106,616
Choice and good—					
Veal.....	211,444	202,602	223,489	208,543	232,991
Butcher ³.....	..	..	..	53,466	40,870

For footnotes, see end of table.

24.—Livestock Marketed at Stockyards and Packing Plants, by Grade, 1962-66—concluded

Livestock	1962	1963	1964	1965 ¹	1966
	No.	No.	No.	No.	No.
Calves—concluded					
Medium and common—					
All weights ⁴	479,717	461,067	497,608	565,252	442,623
Stock.....	293,076	252,399	262,519	355,362	390,132
Hog Carcass Gradings.....	6,593,945	6,520,828	7,281,644	7,077,126	6,860,030
"A".....	2,299,956	2,384,686	2,726,771	2,814,675	2,792,351
"B".....	2,947,274	2,882,431	3,200,876	3,065,538	2,917,008
"C".....	543,769	494,985	536,625	469,325	425,598
"D".....	47,597	37,159	38,541	35,406	26,024
Light.....	168,171	135,400	160,744	154,264	112,744
Heavy.....	216,085	227,475	220,359	199,619	257,791
Extra heavy.....	77,472	78,938	78,574	67,321	81,811
"E" ⁵	53,368	45,452	51,818	50,084	49,085
Sows.....	240,253	234,302	267,336	220,894	197,618
Lambs and Sheep Graded Alive.....	72,744	64,419	57,663	59,248	53,573
Lamb and Sheep Carcass Gradings.....	499,279	450,501	436,490	359,328	285,774

¹ Includes Newfoundland for the first time.² Fed calves discontinued Jan. 1, 1965; included with steersand heifers. ³ Butcher calves not reported separately before 1965.⁴ Grass calves discontinued Jan. 1, 1965; included with medium and common, all weights.⁵ Includes injured hogs, ridglings and stags.

25.—Livestock Marketed at Public Stockyards, Packing Plants and Direct for Export, by Province, 1966

Livestock	Atlantic Provinces	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
	No.	No.	No.	No.	No.	No.	No.	No.
Cattle.....	48,374	122,592	990,861	351,390	702,718	1,207,157	95,087	3,518,179
Totals to stockyards.....	6,253	64,904	476,632	221,566	369,729	629,634	12,105	1,780,823
Direct to packers.....	34,640	54,081	467,029	120,986	250,009	560,852	49,689	1,537,286
Direct for export.....	7,481	3,607	47,200	6,586	54,575	6,304	23,000	148,753
Country points in other provinces ¹	—	—	—	2,252	28,405	10,367	10,293	51,317
Calves.....	22,575	361,543	254,746	156,287	272,508	268,081	27,645	1,363,355
Totals to stockyards.....	10,101	83,618	108,371	127,115	171,508	159,972	4,557	665,242
Direct to packers.....	7,412	225,878	121,666	23,445	13,023	42,038	7,912	441,374
Direct for export.....	5,015	52,047	24,658	2,888	15,454	7,989	1,535	109,586
Country points in other provinces ¹	47	—	51	2,839	72,523	58,082	13,641	147,183
Hogs.....	234,279	1,592,792	2,597,478	595,027	466,360	1,350,734	33,347	6,870,017
Totals to stockyards.....	—	10,050	428,445	194,997	35,028	89,843	5	758,368
Direct to packers.....	233,907	1,582,652	2,161,015	398,720	431,332	1,260,827	33,209	6,101,662
Direct for export.....	372	90	8,018	1,810	—	64	133	9,987
Sheep and Lambs.....	17,862	34,164	114,046	23,613	42,494	110,029	22,195	364,403
Totals to stockyards.....	42	1,362	72,171	10,490	13,547	22,438	633	120,681
Direct to packers.....	17,795	32,780	41,552	12,714	20,388	72,597	20,840	218,666
Direct for export.....	25	22	323	87	1,382	5,252	94	7,185
Country points in other provinces ¹	—	—	—	322	7,177	9,744	628	17,871
Total Inward Movement—²								
Cattle.....	188	2,424	179,260	40,092	79,972	235,591	1,838	539,365
Calves.....	126	621	260,257	2,001	19,872	99,671	283	382,831
Sheep and lambs.....	—	265	22,879	2,542	637	6,400	—	32,723

¹ Livestock billed through stockyards to country points outside province of origin.² Movement to

farms from stockyards and plants, and shipments on through-billings from country points in one province to country points in another province.

Section 3.—Storage and Warehousing

This Section carries data on licensed grain storage and the public warehousing industry only. Information on other types of storage may be obtained from the following sources: cold storage and storage of food—Economics Branch of the Canada Department of Agriculture; storage of petroleum and petroleum products—Energy Statistics Section of the Manufacturing and Primary Industries Division, DBS; customs warehouses—Port Administration Branch of the Department of National Revenue.

Licensed Grain Storage.—Total grain storage capacity in Canada, licensed under the provisions of the Canada Grain Act by the Board of Grain Commissioners for Canada, amounted to 677,199,000 bu. at Dec. 1, 1965, the increase over the same date of 1964 being 4,102,000 bu. Greater capacity in Western country elevators accounted for the total increase plus a 265,000-bu. drop in other storage positions. The movement of grain in and out of storage during 1965-66 is discussed at p. 910; Table 26 gives the amount in storage at three dates during the year. On July 31, 1966, 57.9 p.c. of the licensed storage capacity was occupied as compared with 69.8 p.c. on the same date of 1965.

**26.—Licensed Grain Storage Capacity and Grain in Store, Crop Years
1964-65 and 1965-66**

Crop Year and Storage Position	Licensed Storage Capacity	Canadian Grain ¹ in Licensed Storage				Proportion of Licensed Storage Capacity Occupied		
	Dec. 1, 1964	Dec. 2, 1964	Mar. 31, 1965	July 31, 1965	Dec. 2, 1964	Mar. 31, 1965	July 31, 1965	
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	p.c.	p.c.	p.c.	
1964-65								
Western country.....	378,486	229,906	248,738	302,221	60.7	65.7	79.8	
Interior, private and mill.....	17,908	10,846	10,528	10,177	60.6	58.8	56.8	
Interior, terminals.....	18,100	5,553	5,854	5,572	30.7	32.3	30.8	
Pacific Coast.....	24,846	15,023	12,775	8,906	60.5	51.4	35.8	
Churchill.....	5,000	4,700	4,700	4,393	94.0	94.0	87.9	
Fort William—Port Arthur.....	106,421	63,634	88,932	70,130	59.8	83.6	65.9	
Georgian Bay and upper Lake ports.....	36,566	32,817	12,632	25,016	89.7	34.5	68.4	
Lower Lake and upper St. Lawrence ports.....	20,100	12,543	8,152	10,863	62.4	40.6	54.0	
Lower St. Lawrence ports.....	58,440	40,049	22,318	28,202	68.5	38.2	48.3	
Maritime ports (excl. Newfoundland).	7,229	6,757	2,724	4,184	93.5	37.7	57.9	
Totals, 1964-65.....	673,097	421,827	417,353	469,664	62.7	62.0	69.8	
	Dec. 1, 1965	Dec. 1, 1965	Mar. 30, 1966	July 31, 1966	Dec. 1, 1965	Mar. 30, 1966	July 31, 1966	
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	p.c.	p.c.	p.c.	
1965-66								
Western country.....	382,853	246,444	245,346	251,367	64.4	64.1	65.7	
Interior, private and mill.....	17,743	6,626	7,803	8,012	37.3	44.0	45.2	
Interior, terminals.....	18,100	5,106	4,114	3,719	28.2	22.7	20.5	
Pacific Coast.....	24,846	12,562	14,629	15,327	50.6	58.9	61.7	
Churchill.....	5,000	739	829	4,137	14.8	16.6	82.7	
Fort William—Port Arthur.....	106,321	39,386	84,090	61,748	37.0	79.1	58.1	
Georgian Bay and upper Lake ports.....	36,566	26,210	6,211	8,486	71.7	17.0	23.2	
Lower Lake and upper St. Lawrence ports.....	20,100	9,717	5,574	7,801	48.3	27.7	38.8	
Lower St. Lawrence ports.....	58,440	33,818	14,501	29,044	57.9	24.8	49.7	
Maritime ports (excl. Newfoundland).	7,229	5,300	2,011	2,226	73.3	27.8	30.8	
Totals, 1965-66.....	677,199	385,908	385,108	391,867	57.0	56.9	57.9	

¹ Includes a small quantity of rapeseed in 1965-66.

The Public Warehousing Industry

The summary statistics of the warehousing industry presented in Table 27 cover the operations of the majority of firms offering general merchandise and refrigerated storage facilities to the public. Associations and organizations such as co-operatives operating warehouses or storages for their own members are not included nor are packing houses and other firms operating storage facilities in connection with their respective businesses. Small food lockers are not included except where they may be part of a general warehousing business.

27.—Summary Statistics of Warehousing of General Merchandise and Refrigerated Goods, 1962-66

Item	1962	1963	1964	1965	1966
Companies reporting..... No.	104	138	152	152	145
Investment in land, warehouses, etc..... \$	65,173,924	83,930,051	90,680,374	91,210,700	97,682,008
Warehousing Facilities—					
General merchandise ¹ cu. ft.	53,723,491	77,108,607	83,047,067	86,493,705	79,915,420
Refrigerated goods..... “	34,918,978	45,259,631	44,620,942	44,058,489	40,241,832
Revenue—					
Storage..... \$	15,906,836	20,883,783	22,471,734	22,102,879	25,548,617
Cartage and moving..... \$	7,287,727	6,428,081	9,113,060	10,519,532	11,744,728
Miscellaneous..... \$	6,773,633	9,394,843	10,845,159	12,434,851	14,078,774
Total Revenue..... \$	29,968,196	36,706,707	42,429,953	45,057,262	51,372,119
Operating expenses..... \$	27,784,302	33,679,586	39,657,425	42,470,941	47,180,708
Net Operating Revenue..... \$	2,183,894	3,027,121	2,772,528	2,586,321	4,191,411
Employees, average..... No.	3,137	4,033	4,403	4,679	4,625
Salaries and wages..... \$	14,141,772	17,279,113	20,034,223	21,501,114	23,470,574
Motor Vehicles—					
Trucks..... No.	634	602	652	671	692
Tractors..... “	148	130	165	166	196
Trailers and semi-trailers..... “	206	158	253	296	311

¹ Includes storage space for household goods amounting to 997,900 cu. ft. in 1962; 900,000 cu. ft. in 1963; 1,047,090 cu. ft. in 1964; 969,586 cu. ft. in 1965; and 1,037,370 cu. ft. in 1966.

Section 4.—Co-operative Organizations*

For the year 1965, 2,615 local co-operatives reported a total business volume of \$1,851,800,000, assets of \$888,000,000 and membership of 1,615,000. A reduction in wheat sales brought the volume of business down slightly from the record levels of the previous year. Assets were up by \$70,000,000, with all provinces contributing to the increase. Reporting associations decreased by 28 but reported membership increased by

* Prepared in the Economics Branch, Canada Department of Agriculture, Ottawa.

19,000. Volume of business in 1965 consisted of the following: marketing of farm products, \$1,240,500,000; sales of supplies, \$556,400,000; service revenue (trucking, grinding, seed cleaning, etc.), \$43,600,000, and miscellaneous income (rent, interest, dividends, etc.), \$11,300,000. As in previous years, marketing and purchasing co-operatives were the dominant group of co-operatives in 1965, accounting for 96 p.c. and 86 p.c., respectively, of total volume and total assets. Service and fishermen's co-operatives made up the remainder.

Marketing and purchasing co-operatives recorded a total volume of business of \$1,774,600,000, a decrease of \$6,000,000 from the previous year, but total assets increased from \$698,000,000 to \$762,000,000 in the same period. Business volume included: farm product marketings, \$1,201,700,000; sales of supplies, \$549,400,000; service revenue, \$13,100,000; and miscellaneous income, \$10,400,000. Farm product marketings were down \$32,000,000 during the year as a result of a decrease in grain sales which more than offset gains in other farm products. Grain sales at \$574,000,000 were down \$69,000,000, reflecting a drop-off in Canadian wheat exports from the peak levels of 1964. Grain and seeds continued to be the largest class of farm products handled by co-operatives, accounting for 48 p.c. of total marketings, followed by dairy products, 25 p.c., and livestock 18 p.c. On a provincial basis, the bulk of grains and seeds and livestock were handled by Prairie Province co-operatives, while those in Ontario and Quebec marketed 54 p.c. of the dairy products. Sales of supplies recorded an increase of \$26,000,000 or 5 p.c. over the preceding year. The increase was broadly based, being shared by all sales categories except seed, and all provinces except Nova Scotia. Food products represented 27 p.c. of supply sales, followed by feed, 23 p.c., and petroleum 16 p.c. Quebec led the provinces in value of supply sales with 22 p.c. of the total, followed by Saskatchewan with 21 p.c. and Ontario with 16 p.c. Alberta experienced the greatest sales growth during the year with a gain of 13 p.c. Total assets of marketing and purchasing co-operatives rose to \$762,000,000 at the end of 1965, an increase of \$65,000,000 or 9 p.c.

Service co-operatives perform such services as rural electrification, medical insurance, transportation, grazing, cold storage and seed cleaning for their members. For 1965, 1,029 of these co-operatives reported a total membership of 279,000 and a total business volume of \$45,973,000. Business volume in 1965 was composed of: service revenue, \$30,041,000; miscellaneous income, \$732,000; and sales of products and supplies, \$15,200,000. Total assets amounted to \$107,713,000 compared with \$105,145,000 in the preceding year. Fishermen's co-operatives reporting for 1965 numbered 91 with 11,000 members and total assets of \$17,819,000; business volume was \$31,247,000 as against \$27,264,000 in 1964 and consisted of fish marketings, \$24,981,000; fishing and other supplies, \$5,570,000; service revenue, \$505,000; and miscellaneous income, \$191,000.

Wholesale co-operatives are federations of local co-operatives which act as central marketing agencies and wholesalers for the farm products and supplies of the local co-operatives. The wholesales reported sales of \$413,000,000 in 1965, an increase of \$30,000,000 or 8 p.c. over the previous year. The largest sales items were: livestock, \$90,000,000; food products, \$66,000,000; feed, \$61,000,000; and petroleum, \$51,000,000. Total assets amounted to \$146,000,000 at the end of 1965, an increase of \$23,000,000 or 19 p.c. during the year.

Not included in the above and in the statistics of Tables 28 and 29 are the Arctic co-operatives started in the Canadian North under the Co-operative Development Program in 1959, which caught the interest of the local people and have continued to make steady progress. At the end of 1965 there were 22 co-operatives in operation in the Northwest Territories and northern Quebec and eight groups were in the formative stage. Total sales of these co-operatives at the time were in excess of \$1,000,000, some of the individual co-operatives reaching the \$100,000 level.

28.—Summary Statistics of Co-operative Marketing and Purchasing Associations, 1960-65 and by Province 1964 and 1965

Year and Province	Associations	Share-holders or Members	Sales of Products	Sales of Merchandise	Total Business ¹
	No.	No.	\$'000	\$'000	\$'000
1960 (crop year ended July 31).....	1,934	1,319,187	973,958	368,090	1,362,596
1961 " ".....	1,914	1,324,270	1,019,819	391,761	1,430,197
1962 " ".....	1,877	1,287,562	928,502	423,302	1,372,605
1963 (calendar year).....	1,583	1,339,000	1,100,200	489,000	1,617,900
1964 " ".....	1,546	1,305,000	1,234,000	522,800	1,780,300
1965 " ".....	1,495	1,307,000	1,201,700	549,400	1,774,600
Province					
Newfoundland.....1964	40	8,000	300	6,000	6,300
.....1965	39	9,000	200	6,500	6,800
Prince Edward Island.....1964	15	9,000	5,700	5,300	11,100
.....1965	17	9,000	4,900	5,600	10,600
Nova Scotia.....1964	80	27,000	21,400	21,000	42,900
.....1965	81	25,000	23,800	18,100	42,400
New Brunswick.....1964	54	16,000	10,800	13,200	24,300
.....1965	53	17,000	11,800	13,900	26,100
Quebec.....1964	464	86,000	150,000	117,000	272,000
.....1965	438	84,000	155,300	119,700	278,700
Ontario.....1964	234	110,000	111,600	89,200	205,600
.....1965	223	106,000	118,100	91,600	214,500
Manitoba.....1964	112	185,000	122,500	38,500	163,700
.....1965	103	187,000	127,700	39,900	169,800
Saskatchewan.....1964	313	442,000	412,500	107,300	527,500
.....1965	306	449,000	362,600	114,700	485,500
Alberta.....1964	137	246,000	214,000	58,300	273,800
.....1965	138	236,000	205,400	66,100	273,500
British Columbia.....1964	91	51,000	70,300	37,500	108,900
.....1965	91	52,000	79,000	40,600	120,900
Interprovincial.....1964	6	125,000	114,900	29,500	144,500
.....1965	6	133,000	112,900	32,700	145,800

¹ Includes other revenue.

29.—Products Handled by Marketing and Purchasing Co-operatives, 1964 and 1965

Product	1964		1965	
	Associations ¹	Value of Sales	Associations ¹	Value of Sales
	No.	\$'000	No.	\$'000
Marketing.....	679	1,234,000	588	1,201,700
Dairy products.....	307	282,300	289	296,600
Fruits and vegetables.....	119	45,900	97	46,900
Grains and seeds.....	66	643,000	51	574,100
Livestock and livestock products.....	244	196,600	203	218,000
Eggs and poultry.....	97	51,900	92	51,200
Honey.....	6	4,400	6	4,800
Tobacco.....	3	1,600	2	1,400
Wool.....	3	1,600	5	1,800
Fur.....	11	600	4	600
Forest products.....	13	500	10	400
Miscellaneous.....	30	5,600	31	5,900

¹ Duplication exists as most associations handle more than one product.

29.—Products Handled by Marketing and Purchasing Co-operatives, 1964 and 1965—
concluded

Product	1964		1965	
	Associ- ations ¹	Value of Sales	Associ- ations ¹	Value of Sales
	No.	\$'000	No.	\$'000
Purchasing.....	1,333	522,800	1,302	549,400
Food products.....	754	141,200	697	150,700
Clothing and home furnishings.....	467	15,600	447	17,000
Hardware.....	757	37,800	781	38,700
Petroleum products.....	610	85,500	643	90,300
Feed, fertilizer and spray material.....	919	155,100	828	161,900
Machinery and equipment.....	238	33,400	194	35,700
Building material.....	384	30,100	340	30,800
Miscellaneous.....	636	24,100	573	24,300
Totals.....	2,012	1,756,800	1,890	1,751,100

¹ Duplication exists as most associations handle more than one product.

PART II.—GOVERNMENT AIDS TO AND CONTROL OF DOMESTIC TRADE

Section 1.—Controls Affecting the Marketing of Farm Products

Subsection 1.—Control of the Grain Trade

The agencies exercising control of the grain trade in Canada include the Board of Grain Commissioners for Canada which, since 1912, has administered the provisions of the Canada Grain Act, and the Canadian Wheat Board which operates under the Canadian Wheat Board Act, 1935.

The Board of Grain Commissioners for Canada.*—The Board of Grain Commissioners was established in 1912 under the authority of the Canada Grain Act, 1912 (RSC 1952, cc. 25 and 308 and amendments). It is a quasi-judicial and administrative body of three—a chief commissioner and two commissioners—reporting to the Minister of Agriculture.

The Canada Grain Act has been called the Magna Charta of the Canadian grain trade or, more particularly, of the Canadian farmer, and the Board's chief duties are to ensure that the rights conferred on the different parties by the provisions of the Act are properly protected. Transportation of grain is restricted except from or to licensed elevators, and restriction is placed on the use of established grade names. The Act does not provide for any control or supervision of grain exchanges and the Board of Grain Commissioners has no power or duties in the matter of grain prices.

The Board manages and operates, under semi-public terminal licences, the Canadian Government elevators situated at Moose Jaw and Saskatoon, Sask., Lethbridge, Edmonton and Calgary, Alta., and Prince Rupert, B.C. The Executive Offices of the Board and other principal offices are situated at Winnipeg, Man., but branch offices are maintained at numerous points from Montreal in the east to Victoria in the west. Total personnel is approximately 1,100, including Canadian Government Elevators staff.

On a fee basis, the Board provides official inspection, grading and weighing of grain, and registration of warehouse receipts. All operators of elevators in Western Canada and of elevators in Eastern Canada that handle western-grown grain for export, as well

* Prepared by W. J. MacLeod, Secretary of the Board of Grain Commissioners for Canada, Winnipeg, Man.

as all parties operating as grain commission merchants, track buyers of grain, or as grain dealers, are required to be licensed by the Board annually and to file security by bond or otherwise as a guarantee for the performance of all obligations imposed upon them by the Canada Grain Act or by the regulations of the Board.

To protect the rights of the different parties, the Board has jurisdiction to inquire into and is empowered to give direction regarding any matter relating to the grading or weighing of grain; deductions made from grain for dockage; shortages on delivery of grain into or out of elevators; unfair or discriminatory operation of any elevator; refusal or neglect of any person to comply with any provision of the Canada Grain Act; and any other matter arising out of the performance of the duties of the Board.

In the Prairie Provinces the Board maintains four assistant commissioners—one in Alberta, two in Saskatchewan and one in Manitoba. These assistant commissioners investigate complaints of producers and inspect periodically the country elevators in their respective provinces; all elevators with their equipment and stocks of grain are subject at any time to inspection by officials of the Board.

The Board sets up, annually, Committees on Grain Standards and also appoints Grain Appeal Tribunals to give final decisions in cases where appeals are made against the grading of grain by the Board's inspection officials. To assist in maintaining the uniform quality of the top grades of Red Spring wheat handled through terminal elevators, the Canada Grain Act provides that wheat of these grades shall be stored with grain of like grade only.

The Grain Research Laboratory, located at Winnipeg, is the main centre of research on the chemistry of Canadian grains. It is well staffed and equipped to provide the service required to help maintain and expand domestic and foreign markets for all types of grain. The Laboratory collects and tests samples of various crops to obtain information on the current quality of all grains shipped during the crop year. Fundamental research is also undertaken; the program is directed toward better understanding of what constitutes quality in cereal grains and toward improvement in the methods of assessing quality.

In addition to its duties under the Canada Grain Act, certain other duties are performed by the Board. Under the provisions of the Inland Water Freight Rates Act (RSC 1952, c. 153), the Board maintains records of rates for the carriage of grain from Fort William or Port Arthur, Ont., by lake or river navigation and is empowered to prescribe maximum rates for such carriage. Under the provisions of the Prairie Farm Assistance Act (RSC 1952, c. 213 as amended), the Board collects from licensees under the Canada Grain Act 1 p.c. of the purchase price of wheat, oats, barley, rye, flax and rapeseed purchased by such licensees.

The Canadian Wheat Board.*—The Canadian Wheat Board was established under the Canadian Wheat Board Act of 1935 for the purpose of "the marketing in an orderly manner, in interprovincial and export trade, of grain grown in Canada" and now operates under RSC 1952, c. 44 as amended. The Board accomplishes its objective through regulation and agreement. It owns no grain handling facilities but, by entering into agreements with the owners of these facilities, it attempts to bring about an orderly flow of grain through each of the steps involved in merchandising the grain from the producer to the domestic or overseas buyer.

In the selling of wheat, the Board utilizes the services of shippers and exporters. In its sales operations, the Board endeavours to meet the wishes of overseas buyers and, on occasion, enters into direct contracts. When an exporter completes an export sale, in his capacity as an agent of the Board, he is responsible for the transaction; he completes the transaction with the buyer and settles with the Board for the purchase of the wheat from the Board.

When the commercial storage facilities are inadequate to handle all the grain produced, it is necessary for the Board to regulate the flow of grain from the producer to these

* Revised by R. L. Kristjanson, Executive Assistant, The Canadian Wheat Board, Winnipeg, Man.

forward positions. The first step is accomplished by the use of producer's delivery permits issued annually by The Canadian Wheat Board. Every delivery of grain made to country elevators by a producer is entered in his permit book. By regulating the amount of grain delivered by the producer to the country elevator by the use of a quota system and, by apportioning shipping orders to country elevators according to the needs created by sales commitments, the Wheat Board regulates the amount of grain coming into the marketing channel.

The next step is the handling of the grain by the country elevator. The maximum charges for the handling and storing of the grain are set by the Board of Grain Commissioners, but the actual charges are subject to negotiation between the elevator companies and the Wheat Board.

The third step in the marketing process—transporting the grain from the country elevators to large terminal elevators in Eastern Canada, Churchill or on the West Coast—is carried out by the railways. The Wheat Board determines the kinds and grades of grain that are required at the different terminal destinations to meet its sales commitments and informs the elevator companies and the railways of these needs. The maximum tariffs are set by an agreement between the railways and the Government of Canada.

The fourth major step—storing and handling of the grain at terminal elevators—is done in privately or co-operatively owned elevators. Maximum charges are established for this service by the Board of Grain Commissioners.

In the case of oats and barley, the Board's operations are less extensive than those relating to wheat. These two grains are sold in store positions at the terminal elevators at Fort William-Port Arthur and Vancouver. Oats and barley are marketed either on a straight cash basis at prices quoted daily by the Board or on the basis of exchange of futures concluded through the facilities of the Winnipeg Grain Exchange. The Board controls the movement of coarse grains to the Lakehead. The private trade is responsible for the movement of oats and barley from Lakehead or Vancouver positions.

The producer receives payment for his wheat, oats and barley in two or three stages. An initial payment price is established early in the crop year by Order in Council. The initial payment price less the cost of handling grain at the local elevator and the transportation costs to the Lakehead or Vancouver is the initial price received by the producer. This price is a guaranteed floor price in that if the Wheat Board, in selling the grain, does not realize this price and the necessary marketing costs, the deficit is borne by the Federal Treasury. However, with very few exceptions, the Wheat Board has operated without financial aid from the Federal Treasury.

After the end of the crop year, but prior to the final payment being made, if the Wheat Board can confidently foresee a surplus accumulating and if authorized by Order in Council, an interim payment is made to producers. This interim payment is the same amount per bushel to all producers of the same grade of grain. When the Board has sold all the grain or otherwise disposed of it in accordance with the Canadian Wheat Board Act, the Board, if authorized by Order in Council, makes a final payment to producers.

Under the Prairie Grain Advance Payments Act, administered by the Board, producers may receive, through their elevator agents, cash advances on farm-stored grain in accordance with a prescribed formula. The purpose of this legislation is to make cash available to producers pending delivery of their grain under delivery quotas established by the Board. Cash advances are interest-free as far as producers are concerned.

Western Canadian producers receive the price for their grain that the Wheat Board receives, less its operating costs including carrying charge, and the general level of prices received by the Board is determined by competitive conditions in world markets. The only subsidy received by the farmer in the Canadian wheat marketing system is the part-payment of storage costs for wheat made by the Government of Canada. Under provisions of the Temporary Wheat Reserves Act, the Minister of Finance, out of the Consolidated Revenue Fund, pays to the Wheat Board the storage costs on wheat in storage at the end of the crop year in excess of 178,000,000 bu.

Subsection 2.—Controls Over Farm Products Other Than Grain*

The Government of Canada and provincial governments have, through legislation and in other ways, given marketing aids such as those related to research, education, information, inspection, grading and many other service measures of this type, designed to assist in making adjustments in marketing within agriculture and between agriculture and the remainder of the economy. Closely related is regulatory action designed to protect the consumer.

Producers have been concerned about another type of market control, namely that which will give either their organizations or a government agency influence over the price received. In a highly specialized commercial agriculture such as Canada now has, the producer is dependent on the price of his product for his livelihood. Canadian farmers have long attempted to obtain some measure of market control through voluntary organizations, mainly marketing co-operatives. All provinces have made provision for the incorporation of such co-operatives and most, if not all, have provided other assistance to them. In the federal field, the Agricultural Products Co-operative Marketing Act encourages marketing under a co-operative plan.

Other legislation provides for legal control over the marketing of agricultural products, either by a producers' board or a government agency. Legislation of this type includes that pertaining to milk control boards, to producer marketing boards and to industry marketing commissions. Measures pertaining to grain marketing have been reviewed in Subsection 1, pp. 918-920, and the Agricultural Stabilization Act, which provides price support for certain key products is discussed in the Agriculture Chapter, pp. 481-482.

Product Controls.—The federal and provincial departments of agriculture co-operate in establishing and enforcing grades of quality standards for various foods. Some control over size and type of containers used for distribution of agricultural products is exercised by the Canada Department of Agriculture and the Department of Trade and Commerce enforces regulations pertaining to weights and measures (see p. 930).

Controls related to health and sanitation in food handling are developed and enforced at all three levels of government—municipal, provincial and federal. Examples of provincial and municipal action include laws pertaining to the pasteurization of milk, inspection of slaughterhouses and sanitary standards in restaurants. At the federal level, inspection by the Health of Animals Branch of the Department of Agriculture of all meat carcasses that enter into interprovincial trade is required. The Food and Drug Directorate of the Department of National Health and Welfare has wide control over the composition of foods sold and over misleading advertising of foods and drugs.

Marketing Controls.—*The Agricultural Products Co-operative Marketing Act.*—In the late 1930s, the Federal Government decided to assist orderly marketing by encouraging the establishment of pools which would give to the producer the maximum sales return for his product, less a maximum margin for handling expenses agreed upon in advance. Thus, the Agricultural Products Co-operative Marketing Act and the Wheat Co-operative Marketing Act were passed in 1939. The latter was used in one year only but the Agricultural Products Co-operative Marketing Act, which covers the marketing of all agricultural products except wheat, has continuously served agricultural producers since 1939.

The purpose of this Act is to aid farmers in pooling the returns from sale of their products by guaranteeing initial payments and thus assisting in the orderly marketing of the product. The Government may undertake to guarantee a certain minimum initial

* Prepared in the Economics Branch of the Canada Department of Agriculture, Ottawa.

payment to the producer at the time of delivery of the product, including a margin for handling; sales returns are made to the producer on a co-operative plan. The guaranteed initial payment may be up to a maximum of 80 p.c. of the average price paid to producers for the previous three years, the exact percentage to be recommended by the Minister of Agriculture who enters into an agreement with the selling agency for the product. In 1967 the only agreement made was with respect to apples for processing.

Milk Control Legislation.—Most of the provinces enacted milk control legislation before 1940. Many of them finance these milk-control agencies out of public funds, others finance through the collection of licence fees and assessments from those engaged in the fluid milk industry, and some combine the two methods. Most milk-control agencies have authority to carry out some system of licensing which provides for the revocation of such licences if those engaged in the fluid milk business do not conform with the orders of the milk control board.

In all provinces with such boards, the milk control board sets the minimum price which distributors in specified markets may pay producers for Class I milk, that is, milk actually sold for fluid consumption. In Ontario and British Columbia, formulas are taken as a guide in the setting of minimum prices. Most provinces also set either minimum or fixed wholesale and retail prices for fluid milk. The wholesale and retail prices are fixed in Prince Edward Island, Nova Scotia and Saskatchewan; minimum prices are established in New Brunswick, Quebec and Alberta. However, maximum but not minimum prices are set in Manitoba and no control is exercised over milk prices at the wholesale and retail levels in Ontario and British Columbia; in these three provinces some degree of price competition between store and home delivery sales has developed.

The powers given to or requirements made by milk control boards include: (1) authority to inquire into all matters pertaining to the fluid milk industry, to define market areas, to arbitrate disputes, to examine the books and records of those engaged in the industry, to issue and revoke licences, and to establish a price for milk, and (2) authority to require a bond from distributors, periodic reports from distributors, payments to be made to producers by a certain date each month, distributors to give statements to suppliers, distributors to give notice before ceasing to accept milk from any producer, producers to give notice before ceasing to deliver milk to any distributor, and the prohibition of distributors requiring capital investment from producers.

At the national level, a *Canadian Dairy Commission* was established and started operating on Apr. 1, 1967. This is a new departure in the area of agricultural marketing; it is the first time with any farm product that a national agency and provincial agencies have authority to deal with the same industry in their respective areas of jurisdiction. The Canadian Dairy Commission complements provincial function by regulating the marketing and pricing of milk and milk products that move in interprovincial or international trade. Briefly, the function of the Commission is to provide efficient producers of milk and cream with the opportunity of obtaining a fair return for their labour and investment and to provide consumers with a continuous and adequate supply of dairy products of high quality. The Commission administers the funds provided by the Federal Government for stabilization purposes. (See also p. 482.)

Producer Marketing Boards.—During the 1930s strong support developed for legislation whereby agricultural producers could exercise legal authority under certain conditions to control the marketing of their produce. The Natural Products Marketing Act of 1936 attempted to provide this power at the federal level but proved *ultra vires*. The Natural Products Marketing (British Columbia) Act 1936 was *intra vires* of provincial government powers and provided the model from which marketing board legislation has evolved in all ten provinces.

While marketing board legislation has been revised from time to time on the basis of experience and there are variations in detail from province to province, the same basic powers are given to producers in all provinces. These powers include authority for a duly constituted producer board to control the marketing of 100 p.c. of a specified commodity produced in a designated area. A producers' board, in at least some provinces, may set production quotas for each farmer. One producers' board may control the marketing of several related commodities and the designated area may be either the whole or part of a province. A producer vote is usually required to establish a producer marketing board whose powers are delegated either by a provincial marketing board, which has certain supervisory authority, or by the Lieutenant-Governor in Council.

The powers of a producers' board provided by provincial legislation are necessarily limited to intraprovincial trade. Under the Agricultural Products Marketing Act, the Federal Government may delegate to a marketing board with respect to interprovincial and export trade similar powers to those obtained with respect to intraprovincial trade under provincial authority. This Act also gives the Governor in Council the right to authorize a provincial marketing board to impose and collect levies from persons engaged in the production and marketing of commodities controlled by it for the purposes of the board, the creation of reserves and equalization of returns.

In 1966 there were 107 such marketing boards, including the Canadian Wheat Board (previously excluded from the total), organized in Canada, 62 of which were in the Province of Quebec and 20 in Ontario; each of the other provinces with the exception of Newfoundland had one or more boards. It is estimated that about 42 p.c. of the 1966 farm cash income was received from sales made under the control of provincial marketing board plans, including the following commodities: hogs, certain dairy products, poultry, wool, tobacco, wheat, soybeans, sugar beets, potatoes, other vegetables, fruits, seed corn, white beans, honey, maple products and pulpwood. As at Oct. 31, 1966, 41 of these provincial boards had received an extension of powers for purposes of interprovincial and export trade from the Federal Government. Five boards had received authority with regard to seven commodities to collect levies in excess of administrative expenses.

Section 2.—Combinations in Restraint of Trade*

The purpose of Canadian anti-combines legislation is to assist in maintaining free and open competition as a prime stimulus to the achievement of maximum production, distribution and employment in a system of free enterprise. To this end, the legislation seeks to eliminate certain practices in restraint of trade that serve to prevent the nation's economic resources from being most effectively used for the advantage of all citizens.

By amendments that came into force on Aug. 10, 1960 (SC 1960, c. 45), all the provisions of the anti-combines legislation which previously had been divided between the Combines Investigation Act (RSC 1952, c. 314) and the Criminal Code were amended and consolidated in the Act. The substantive provisions now are contained in Sects. 2, 32, 33, 33A, 33B, 33C and 34 of the Combines Investigation Act. The Act was enacted in 1923 and was amended extensively in 1935, 1937, 1946, 1949, 1951 and 1952 as well as in 1960.

Sect. 32, generally speaking, forbids in Subsect. (1) combinations that prevent or lessen "unduly" competition in the production, manufacture, purchase, barter, sale, storage, rental, transportation or supply of an article of trade or commerce or in the price of insur-

* Revised by D. H. W. Henry, Q.C., Director of Investigation and Research, Combines Investigation Act, Department of Consumer and Corporate Affairs, Ottawa.

ance. Subsect. (1) derives from Sect. 411 of the Criminal Code which was enacted originally in 1889. Although Subsect. (2) provides that no person shall be convicted for participation in an arrangement relating only to such matters as the exchange of statistics or the defining of product standards, etc., Subsect. (3) provides that Subsect. (2) does not apply if the arrangement has lessened or is likely to lessen competition unduly in respect of prices, quantity or quality of production, markets or customers or channels of distribution, or if the arrangement "has restricted or is likely to restrict any person from entering into or expanding a business in a trade or industry". Subsect. (4) provides that, subject to Subsect. (5), no person shall be convicted for participation in an arrangement which relates only to the export trade. Subsect. (5) provides that Subsect. (4) does not apply if the arrangement has had or is likely to have harmful effects on the volume of export trade or on the businesses of Canada competitors or on domestic consumers.

Sects. 2 and 33 make it an offence to participate in a merger that has or is likely to have the effect of lessening competition to the detriment or against the interest of the public. These Sections also make it an offence to participate in a monopoly that has been operated or is likely to be operated to the detriment or against the interest of the public.

Sect. 33A deals with what are commonly called "price discrimination" and "predatory price cutting". It provides that a supplier may not make a practice of discriminating among those of his trade customers who come into competition with one another by giving one a preferred price which is not available to another if the second is willing to buy in like quantities and qualities as the first; it also forbids a supplier from selling at prices lower in one locality than in another, or unreasonably low anywhere, if the effect or tendency of such policy is to lessen competition substantially or eliminate competitors or the policy is designed to have such effect.

Sect. 33B provides that where a supplier grants advertising or display allowances to competing trade customers he must grant them in proportion to the purchases of such customers; any service he exacts in return must be such that his different types of customers are able to perform; and if such customers are required to incur expenses to earn such allowances, such expenses also must be proportionate to their purchases.

Sect. 33C makes it an offence for any person, for the purpose of promoting the sale or use of an article, to make any materially misleading representation to the public concerning the price at which such or like articles have been, will be or are ordinarily sold.

Sect. 34 prohibits a supplier of goods from prescribing the prices at which they are to be resold by wholesalers or retailers or from cutting off supplies to a merchant because of the merchant's failure or refusal to abide by such prices, i.e., the practice of "resale price maintenance". The Section also provides that it shall not be inferred that a person practised resale price maintenance simply because he refused or counselled the refusal of supplies to a merchant if there were reasonable cause to believe and the supplier did believe that the merchant was making a practice of using articles of such supplier as "loss leaders" or as bait advertising or was making a practice of engaging in misleading advertising in respect of such articles or of not providing services that purchasers of such articles might reasonably expect.

The Director of Combines Investigations and Research is responsible for investigating combines and other restrictive practices, and the Restrictive Trade Practices Commission is responsible for appraising the evidence submitted to it by the Director and the parties under investigation, and for making a report to the Minister of Consumer and Corporate Affairs. When there are reasonable grounds for believing that a forbidden practice is engaged in, the Director may obtain from the Commission authorization to examine witnesses, search premises, or require written returns. After examining all the information

available, if the Director believes that it proves the existence of a forbidden practice, he submits a statement of the evidence to the Commission and to the parties believed to be responsible for the practice. The Commission then sets a time and place at which it hears argument on behalf of the Director in support of his statement, and hears argument and receives evidence on behalf of any persons against whom allegations have been made in the statement. Following this hearing, the Commission prepares and submits a report to the Minister of Consumer and Corporate Affairs, ordinarily required to be published within thirty days.

Under the provisions of the Act, general inquiries may be made into restraints of trade which, although not forbidden or punishable, may affect the public interest. The courts, including the Exchequer Court of Canada, in addition to imposing punishment for a contravention of the legislation, may make an order restraining persons from embarking on, continuing or repeating a contravention or directing the dissolution of a merger or monopoly as the case may be. Application also may be made to the courts for such an order in lieu of prosecuting and convicting for a contravention of the legislation. Prosecutions for offences against the substantive provisions of the legislation (other than Sect. 33C which is punishable only on summary conviction) may be taken either in the provincial courts or with the consent of the accused in the Exchequer Court of Canada.

In the period Jan. 1, 1965 to Aug. 31, 1967, the following reports of inquiries under the legislation were published:—

- (1) Monopoly in Distribution of Propane, British Columbia.
- (2) Thomson Newspapers' Acquisition of the Fort William Times-Journal.
- (3) Shipping Conference Arrangements and Practices.
- (4) Street Paving Tenders in the City of Hull, Que.
- (5) The John Street Pumping Station Contract, Metropolitan Toronto, Ont.
- (6) Distribution and Pricing of Pesticides.
- (7) Pricing Practices of Miss Mary Maxim Ltd.
- (8) Pricing of Ready-Mixed Concrete, Windsor, Ont.
- (9) North Star and Shell Gasoline Consignment Plans.
- (10) Trade Practices in the Phosphorus Products and Sodium Chlorate Industries.
- (11) "Specials" in Eggs, Kingston Area, Ont.
- (12) Glued-Laminated Timbers.

These reports and copies of the annual reports under the Act may be obtained from the Queen's Printer or the office of the Director of Investigation and Research, Combines Investigation Act, Department of Consumer and Corporate Affairs, Ottawa.

Section 3.—Control and Sale of Alcoholic Beverages

The retail sale of alcoholic beverages in Canada is controlled by provincial and territorial government liquor control authorities. Alcoholic beverages are sold directly by most of these liquor control authorities to the consumer or to licensees for resale. However, in some provinces beer and wine are sold directly by breweries and wineries to consumers or to licensees for resale. During the year ended Mar. 31, 1966, provincial government liquor authorities operated 1,136 retail stores and had 96 agencies in smaller centres of population.

Government revenue specifically related to alcoholic beverages and details of sales by value and volume for each province are given below. DBS report, *The Control and Sale of Alcoholic Beverages in Canada* (Catalogue No. 63-202) shows further detail as well as volume figures of production and warehousing transactions, the value and volume of imports and exports and the assets and liabilities of provincial liquor commissions.

1.—Revenue of Provincial and Territorial Governments Specifically Derived from the Control and Sale of Alcoholic Beverages, Years Ended Mar. 31, 1965 and 1966

NOTE.—Figures include revenue collected directly by the provincial and territorial governments as well as revenue of the liquor authorities, but exclude revenue resulting from a general retail sales tax on alcoholic beverages levied by eight provinces.

Province or Territory	1965			1966		
	Net Income from Sales ¹	Sales Tax, Licences and Permits, and Other	Total	Net Income from Sales ¹	Sales Tax, Licences and Permits, and Other	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	3,408	4,224	7,632	3,920	4,592	8,512
Prince Edward Island.....	1,684	591	2,275	1,812	645	2,457
Nova Scotia.....	13,662	405	14,067	15,005	331	15,336
New Brunswick.....	11,422	364	11,786	11,907	388	12,295
Quebec.....	39,621	20,930	60,551	60,376	21,776	82,152
Ontario.....	84,920	29,616	114,536	95,987	30,753	126,740
Manitoba.....	15,412	3,409	18,821	17,924	3,404	21,328
Saskatchewan.....	16,765	416	17,181	18,443	468	18,911
Alberta.....	26,640	1,691	28,331	29,212	1,846	31,058
British Columbia.....	35,129	626	35,755	41,154	666	41,820
Yukon Territory.....	880	116	996	921	132	1,053
Northwest Territories.....	988	72	1,060	1,157	69	1,226
Canada.....	250,531	62,460	312,991	297,818	65,070	362,888

¹ After provision for depreciation on fixed assets and capital expenditure met out of operating income; includes commission on general sales tax collections.

Revenue of the Federal Government specifically derived from the control and taxation of alcoholic beverages comprising excise duties, excise taxes, import duties and certain fees and licences in that connection is shown in Table 2.

2.—Revenue of the Federal Government Specifically Derived from the Control and Taxation of Alcoholic Beverages, Years Ended Mar. 31, 1962-66

NOTE.—Figures exclude revenue from the general sales tax which is not available by commodities.

Nature of Levy	1962	1963	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000
On Spirits.....	143,616	152,907	155,545	165,638	193,159
Excise duty.....	113,689	122,021	129,399	134,716	156,942
Licences.....	8	8	9	8	9
Import duty.....	29,919	30,878 ¹	26,137	30,914	36,208
On Beer.....	93,257	98,354	103,116	105,685	108,234
Excise duty.....	93,051	98,097	102,914	105,386	107,917
Licences.....	3	3	3	3	3
Import duty.....	203	254 ¹	199	296	314
On Wine.....	5,223	6,417	5,504	6,634	7,203
Excise taxes.....	3,350	3,727	3,814	4,092	4,402
Import duty.....	1,873	2,690 ¹	1,690	2,542	2,801
Totals².....	242,096	257,678	264,165	277,957	308,596

¹ Includes an import surcharge of 15 p.c. ad valorem effective from June 25, 1962 to Feb. 20, 1963, when it was reduced to 10 p.c. ad valorem. The import surcharge was removed entirely as of Apr. 1, 1963.

² Drawbacks

and refunds of duties and taxes have not been deducted.

Table 3 shows the value of sales of alcoholic beverages in 1964-66 but it should be noted that these figures do not always represent the final retail selling price of alcoholic beverages to the consumer because, when sold to licensees, only the selling price to licensees is known.

3.—Value of Sales of Alcoholic Beverages, Years Ended Mar. 31, 1964-66

Province or Territory	Spirits			Wines		
	1964	1965	1966	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	6,683	7,421	8,570	635	631	626
Prince Edward Island.....	2,939	3,308	3,564	345	367	377
Nova Scotia.....	18,483	19,504	21,536	2,902	2,914	3,056
New Brunswick.....	13,094	15,177	15,894	2,764	2,741	2,796
Quebec.....	109,084	94,879	131,651	21,259	19,339	28,504
Ontario.....	203,356	222,104	252,651	26,287	28,752	32,633
Manitoba.....	24,434	25,890	28,499	3,282	3,597	4,051
Saskatchewan.....	20,855	22,431	25,285	3,350	3,607	3,957
Alberta.....	40,907	42,559	47,983	5,064	5,606	6,546
British Columbia.....	59,595	64,825	78,304	7,903	9,249	12,194
Yukon Territory.....	1,032	1,040	1,173	169	168	197
Northwest Territories.....	987	1,066	1,268	121	159	196
Canada.....	501,449	520,204	616,378	74,061	77,130	95,133
	Beer			Totals		
	1964	1965	1966	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	13,464	14,428	15,719	20,782	22,480	24,915
Prince Edward Island.....	1,832	2,001	2,301	5,116	5,676	6,242
Nova Scotia.....	17,815	18,351	20,119	39,200	40,769	44,711
New Brunswick.....	12,540	14,026	15,757	28,398	31,944	34,447
Quebec.....	118,842	134,418	138,052	249,185	248,636	298,207
Ontario.....	191,540	199,797	242,196	421,183	450,653	527,480
Manitoba.....	32,626	32,210	32,542	60,342	61,697	65,092
Saskatchewan.....	26,166	26,616	27,646	50,371	52,654	56,888
Alberta.....	36,641	37,044	40,539	82,612	85,209	95,068
British Columbia.....	49,625	50,811	50,642	117,123	124,885	141,140
Yukon Territory.....	1,189	1,146	1,171	2,390	2,354	2,541
Northwest Territories.....	1,039	1,128	1,205	2,147	2,353	2,669
Canada.....	503,319	531,976	587,889	1,078,849	1,129,310	1,299,400

Volume of sales, as shown in Table 4, is a more realistic indicator of trends in consumption, although, as a measure of personal consumption by Canadians, it is subject to the same limitations as value sales in respect of purchases by non-residents.

4.—Volume of Sales of Alcoholic Beverages, Years Ended Mar. 31, 1964-66

Province or Territory	Spirits			Wines		
	1964	1965	1966	1964	1965	1966
	'000 gal.	'000 gal.	'000 gal.	'000 gal.	'000 gal.	'000 gal.
Newfoundland.....	216	216	257	70	57	55
Prince Edward Island.....	94	103	108	40	54	52
Nova Scotia.....	603	634	699	381	375	387
New Brunswick.....	391	475	473	345	338	341
Quebec.....	3,695	3,061	4,159	2,683	2,253	3,264
Ontario.....	7,466	7,668	8,724	3,702	3,686	4,024
Manitoba.....	814	828	885	454	485	520
Saskatchewan.....	695	713	799	496	529	565
Alberta.....	1,258	1,295	1,451	696	758	895
British Columbia.....	2,044	2,193	2,659	1,199	1,396	1,862
Yukon Territory.....	28	27	32	16	14	18
Northwest Territories.....	26	26	31	10	13	17
Canada.....	17,330	17,239	20,277	10,092	9,958	12,000

4.—Volume of Sales of Alcoholic Beverages, Years Ended Mar. 31, 1964-66—concluded

Province or Territory	Beer			Totals		
	1964	1965	1966	1964	1965	1966
	'000 gal.	'000 gal.	'000 gal.	'000 gal.	'000 gal.	'000 gal.
Newfoundland.....	3,893	3,668	3,959	4,179	3,941	4,271
Prince Edward Island.....	622	696	796	756	853	956
Nova Scotia.....	6,625	6,875	7,506	7,609	7,884	8,592
New Brunswick.....	4,417	5,246	5,541	5,153	6,059	6,355
Quebec.....	80,635	85,317	85,544	87,013	90,631	92,967
Ontario.....	99,690	103,871	107,640	110,858	115,225	120,388
Manitoba.....	13,768	13,442	13,222	15,036	14,755	14,627
Saskatchewan.....	11,345	11,467	11,926	12,536	12,709	13,290
Alberta.....	18,451	18,679	19,193	20,405	20,732	21,539
British Columbia.....	24,049	24,406	23,950	27,292	27,995	28,471
Yukon Territory.....	264	266	464	308	307	514
Northwest Territories.....	243	263	278	279	302	326
Canada.....	264,002	274,196	280,019	291,424	301,393	312,296

Section 4.—Miscellaneous Aids or Controls

The National Energy Board.—The National Energy Board was established by the National Energy Board Act, 1959 (SC 1959, c. 46) for the broad purpose of assuring the best use of energy resources in Canada. The Board is responsible for the regulation in the public interest of the construction and operation of oil and gas pipelines subject to the jurisdiction of the Parliament of Canada, the tolls charged for transmission by such pipelines the export and import of gas, the export of electric power and the construction of those lines over which such power is exported. The Board is also required to study and keep under review all matters relating to energy within the jurisdiction of the Parliament of Canada and to recommend such measures as it considers necessary or advisable in the public interest with regard to such matters. The Act also authorizes the extension of the export and import provisions to oil upon proclamation by the Governor in Council. Amendment made to the regulations in 1966 increased the quantities of electric power and energy that the Board may authorize by order to be exported, authorized the Board to handle applications for the exportation and importation of small quantities of gas where the size of the transaction does not justify the usual procedure, and empowers the Board to authorize the export power under emergency conditions. The Board, which reports to the Minister of Energy, Mines and Resources, consists of a chairman, a vice-chairman and three other members.

The National Oil Policy, announced in 1961, had the initial objective of attaining certain target levels of oil production, including natural gas liquids. Production, which in 1960 had averaged only 544,000 bbl./day, averaged an estimated 1,012,000 bbl./day in 1966, an increase of about 90,000 bbl./day over 1965. Although both domestic and export markets contributed to the growth in 1966, demand for Canadian oil in the United States was particularly buoyant and large-scale shipments of propane started moving to Japan in the final quarter of the year. Two problems in this area received intensive study during 1966, the first relating to the rapid advance in Canada's petroleum resource base indicative of the need for expansion of markets for Canadian oil, and the other relating to the inadequate refinery capacity in Ontario west of the Ottawa Valley which with the persistence of low prices and easy supply conditions on the world oil market has resulted in continuing pressure to use foreign-origin products in that area.

The National Power Policy, announced in 1963, stressed the need for taking full advantage of evolutionary changes in the power industry for the provision of abundant electric energy at lowest possible cost and for a flexible export policy that would permit long-term export of large blocks of power to the United States to assist in the immediate development of large-scale Canadian power projects and the strengthening of Canada's

balance-of-payments position. In pursuance of these aims, the Board co-operates with other agencies in the consideration of interprovincial and international interconnections of electric power systems.

During 1966, the work of the Board included the issuing of 769 certificates, licences and orders, compared with 629 in 1965. Following public hearings, three certificates were issued authorizing the construction of additional gas pipeline facilities; the licences and orders issued concerned the export of electric power and energy, the export of natural gas and butanes and the import of natural gas and exemption orders, the latter relating to the construction of pipelines or branches or extensions not exceeding 25 miles in length. The Board issued 521 orders relating to protection and safety in pipeline operations and carried out numerous field inspections concerning the pressure-testing of new gas and oil lines, the re-testing of existing pipelines, the internal sandblasting of portions of pipeline to effect a decrease in frictional resistance, and the testing of gas compression and oil-pumping facilities and other installations. The financial aspects of operations of pipeline companies under the Board's jurisdiction received continual scrutiny, and general surveillance was maintained over rates, tolls and tariffs. No requests for public hearings on rate matters were received during the year but studies were initiated relating to the development of rate regulatory procedures.

In the performance of its obligations in 1966, the Board carried out a number of special studies and maintained liaison with other responsible authorities. The development of the Canadian long-term energy forecast continued throughout the year and up-to-date estimates of reserves and producibility for crude oil, natural gas and natural gas liquids were maintained. The Board co-operated in the study of the coal industry in Nova Scotia and a number of studies were continued or started during the year in the field of electric power, particularly with respect to the avoidance of large-scale power failures, the development of the Lower Nelson River, the possible development of the upper reaches of the St. John River in the State of Maine, and the interconnection of electric power systems in Canada. It acted in an advisory capacity in the work associated with the decision to install a thermal-electric generating unit at the Trenton Plant of the Nova Scotia Power Commission and with the installation of power cables on the Prince Edward Island-mainland causeway. The Board continued to co-operate in energy matters with the Canadian Standards Association in the preparation of standard codes for the design, construction and operation of pipelines, with the National Harbours Board and the Canadian Transport Commission in the design of specialized pipeline facilities for use on locks and in railyards, and with several departments of Government in the preparation of pipeline and electric power transmission maps. Research operations included the investigation and development of computer applications in the study of electric power systems.

Trade Standards.*—The Standards Branch of the Department of Trade and Commerce consolidates under one Director the administration of the National Trade Mark and True Labelling Act, the Precious Metals Marking Act, the Weights and Measures Act, the Electricity Inspection Act, and the Gas Inspection Act.

Commodity Standards.—On Nov. 26, 1949, Parliament passed the National Trade Mark and True Labelling Act (RSC 1952, c. 191) which provides a framework for the development of the National Standard and true labelling in order to circumvent public deception in advertising. In brief, the use of the National Standard is voluntary and compliance with commodity standards affects only those manufacturers who desire to use the national trade mark. This is exemplified in the National Trade Mark Garment Sizing Regulations which were passed on Mar. 16, 1961. In addition, where manufacturers descriptively label any commodity or container, it must be labelled accurately to avoid public deception. The regulation applying to the labelling of fur garments, for example, has been established as a code of fair practice throughout the merchandising field.

* Revised by the Standards Branch, Department of Trade and Commerce, Ottawa.

Under the terms of the Precious Metals Marking Act, 1946 (RSC 1952, c. 215), commodities composed of gold, silver, platinum or palladium may be marked with a quality mark describing accurately the quality of the metal. Where such mark is used, a trade mark registered in Canada or for which application for registration has been made must also be applied. Gold-plated or silver-plated articles may also be marked under certain conditions outlined in the Act.

Weights and Measures.—The Weights and Measures Act (RSC 1952, c. 292) prescribes the legal standards of weight and measure for use in Canada; it also requires control of the type of all weighing and measuring devices used for commercial purposes and their periodic verification and surveillance directed toward the elimination of sales by short weight or short measure. During 1966, 682,620 prepackaged articles were checked for weight or measure and 455,672 inspections of devices were made.

Electricity and Gas Inspection.—Responsibilities of the Standards Branch, under the Electricity Inspection Act (RSC 1952, c. 94) and the Gas Inspection Act (RSC 1952, c. 129) comprise the testing and stamping of every electricity and gas meter used throughout Canada for billing purposes, the object being to ensure the correct measurement of all electricity and gas sold. Canada is divided into 20 districts for administration of the two Acts and the staff numbers 217. During the year ended Mar. 31, 1966, 1,425,479 meters were tested. In 1965, there were 6,137,398 electricity meters and 1,652,840 gas meters registered in Canada.

*Patents.**—Letters patent are issued subject to the provisions of the Patent Act (RSC 1952, c. 203), effective since 1935. Applications for protection relating to patents should be addressed to the Commissioner of Patents, Ottawa.

5.—Patents Applied for, Granted, etc., Years Ended Mar. 31, 1962-66

Item	1962	1963	1964	1965	1966
Applications for patents..... No.	25,447	26,409	27,057	27,811	30,093
Patents granted..... “	21,659	21,225	23,230	23,451	24,241
Granted to Canadians..... “	1,844	1,682	1,763	1,734	1,131
Caveats granted..... “	226	256	266	250	275
Assignments..... “	24,161	24,180	25,313	26,487	27,795
Fees received, net..... \$	1,858,965	1,922,250	2,002,271	2,046,174	2,249,532

The number of Canadian patents granted increased fairly steadily each year from 4,522 at the beginning of the century to 24,241 in the year ended Mar. 31, 1966. Roughly, 68 p.c. of the patents granted resulted from inventions made by residents of the United States, 8 p.c. by residents of Britain and other Commonwealth countries and 5 p.c. by residents of Canada. Printed copies of patents issued from Jan. 1, 1948 to date are available at a nominal fee. The Canadian *Patent Office Record* gives a brief digest of each patent.

Canadian and foreign patents may be consulted at the Patent Office Library. The Library has records of British patents and abridged specifications thereof from 1617 to date, and of United States patents from 1845 to date, as well as many patents, indexes, journals and reports from Australia, New Zealand, South Africa, India, Pakistan, France, Belgium, Austria, Norway, Mexico, Italy, Sweden, the Netherlands, Switzerland, Japan, Egypt, Germany, Ireland, Colombia, Czechoslovakia and Yugoslavia.

* Revised by the Commissioner of Patents, Ottawa.

Copyrights, Industrial Designs and Timber Marks.*—Copyright protection is governed by the Copyright Act (RSC 1952, c. 55) in force since 1924. Protection is automatic without any formality. However, a system of voluntary registration is provided. Application for registration should be addressed to the Commissioner of Patents, Ottawa.

The Act sets out the qualifications for a copyright and its duration: "Copyrights shall subsist in Canada . . . in every original literary, dramatic, musical and artistic work, if the author was, at the date of the making of the work, a British subject, a citizen or subject of a foreign country which has adhered to the Berne Convention and the additional Protocol . . . or resident within Her Majesty's Dominions. The term for which the copyright shall subsist shall, except as otherwise expressly provided by this Act, be the life of the author and a period of fifty years after his death."

Canada belongs to the Universal Copyright Convention. This means that the works of Canadian authors are protected in the United States without the formality of compulsory registration or the obligation of printing in the United States, provided that, from the first publication, the work bears in a prominent place the following identification: ©, followed by the name of the proprietor and the year of publication.

Copyright protection is extended to records, perforated rolls, cinematographic films, and other contrivances by means of which a work may be mechanically performed. The intention of the Act is to enable Canadian authors to obtain full copyright protection in Canada, in all parts of the Commonwealth, in foreign countries of the Copyright Union and in the United States. Protection of industrial designs and of timber marks is afforded under the Industrial Design and Union Label Act and the Timber Marking Act. Registers of such designs and marks are kept by the Copyright Branch of the Patent Office.

6.—Copyrights, Industrial Designs and Timber Marks Registered, Years Ended Mar. 31, 1962-66

Item	1962	1963	1964	1965	1966
Copyrights registered..... No.	6,479	7,279	7,098	7,244	7,720
Industrial designs registered..... "	684	788	814	846	1,030
Timber marks registered..... "	1	3	2	1	3
Assignments registered..... "	1,213	1,279	1,165	1,021	2,421
Fees received, net..... \$	28,634	31,145	31,040	32,818	37,651

Trade Marks.†—The Trade Marks Office, a Branch of the Department of the Registrar General of Canada, administers the Trade Marks Act (SC 1952-53, c. 49) which covers all legislation concerning the registration and use of trade marks and supersedes from July 1, 1954, former legislation enacted under the Unfair Competition Act, the Union Label Act and the Shop Cards Registration Act. Correspondence relating to an application for registration of a trade mark should be addressed to the Registrar of Trade Marks, Ottawa.

Applications are advertised for opposition purposes in the *Trade Marks Journal*, a weekly publication that also gives particulars of every registration of a trade mark and every registration of a registered user. The required fee payable on application for registration of a trade mark is \$25, for advertisement of an application \$15 and for registration of a person as a registered user of a trade mark, \$20.

* Revised by the Commissioner of Patents, Ottawa.

† Revised by the Registrar of Trade Marks, Department of the Registrar General of Canada, Ottawa.

7.—Trade Marks Registered, Years Ended Mar. 31, 1962-66

Item	1962	1963	1964	1965	1966
Trade marks registered..... No.	4,438	4,620	4,905	4,824	5,097
Trade mark registrations assigned..... "	3,335	2,887	3,534	3,685	3,508
Trade mark registrations renewed..... "	1,961	2,657	3,105	2,821	2,727
Certified copies prepared..... "	1,412	1,529	1,415	1,866	24,137
Fees received, net..... \$	336,212	346,387	363,481	388,682	412,568

Subventions and Bounties on Coal.*—A major problem of the Canadian coal mining industry arises from the fact that its fields are situated far distant from the main consuming markets of the Provinces of Ontario and Quebec while these markets lie in close proximity to the bituminous and anthracite fields of the United States. Transportation subventions, which have been maintained in varying degree during the past 30 years, were designed to further the movement of Canadian coals by equalizing as far as possible their laid-down costs with the laid-down costs of imported coals in various market areas. Since 1963, an addition to subvention regulations has also enabled eastern Canadian coals to be made competitive with imported residual fuel oils in the Atlantic Provinces and the Province of Quebec. Subvention assistance is authorized by Parliamentary vote and payments are administered in accordance with regulations established by Orders in Council.

* Revised by the Dominion Coal Board, Ottawa.

8.—Expenditure for Coal Subventions, by Province, 1962-66

NOTE.—Tonnes and expenditures shown in a given year, being on a calendar-year basis, are not necessarily in direct relationship; certain of the amounts include adjustments on movements of previous years.

Province	1962	1963	1964	1965	1966
Nova Scotia..... ton	2,191,938	2,428,819	2,336,571	3,465,093	3,647,388
\$	14,589,764	14,442,122	12,780,461	21,569,607	27,610,275
New Brunswick..... ton	114,186	191,765	407,120	582,192	767,900
\$	221,984	540,351	1,263,668	1,808,219	1,925,500
Saskatchewan..... ton	82,511	89,311	128,215	176,224	200,277
\$	62,359	65,542	93,415	122,547	135,561
Alberta and eastern British Columbia..... ton	57,539	63,346	51,296	65,006	50,211
\$	150,595	172,782	145,545	205,071	167,581
British Columbia and Alberta export..... ton	634,855	716,740	1,001,230	1,060,311	1,117,081
\$	2,408,653	2,323,118	2,911,292	2,964,107	3,129,291
Totals..... ton	3,051,029	3,489,981	3,924,432	5,348,826	5,782,851
\$	17,433,355	17,543,915	17,191,381	26,669,551	32,968,221

The Canadian Coal Equality Act (RSC 1952, c. 34), which implemented one of the recommendations of the Royal Commission on Maritime Claims (1926), was designed to assist the Canadian steel industry and only incidentally affects coal. It provides for the payment of 49.5 cents per ton on bituminous coal mined in Canada and converted into coke to be used in the Canadian manufacture of iron and steel. Bounties paid under this authority for the years 1962-66 were as follows:—

Item	1962	1963	1964	1965	1966
Quantity..... ton	420,036	492,406	472,968	337,302	202,181
Amount..... \$	207,918	235,791	234,119	166,964	100,079

PART III.—BANKRUPTCIES AND COMMERCIAL FAILURES

Two series of figures are included in this part which, although closely related as far as subject matter is concerned, cover different aspects of the field of bankruptcies and commercial failures. The first, under the heading of "Administration of Bankrupt Estates" is limited to the supervision, by the Superintendent of Bankruptcy, of the administration of bankrupt estates under the Bankruptcy Act (including the Farmers' Creditors Arrangement Act); it gives information on the amounts realized from the assets as established by debtors and indicates that values actually paid to creditors are invariably very much lower than such estimates alone would imply. It can therefore be assumed that this applies in even greater degree to the more extended fields covered in the second section under the heading of "Returns under the Bankruptcy and Winding-Up Act" which is compiled by the Dominion Bureau of Statistics. This series is limited to bankruptcies and insolvencies made under federal legislation (the Bankruptcy Act and the Winding-Up Act) and, since 1955, includes business failures only (see p. 934). The figures of assets and liabilities are estimates made by the debtor and, because they are not made uniformly, should be accepted with reservations.

Administration of Bankrupt Estates.*—The Bankruptcy Act, which was last revised in 1949, was amended by SC 1966, c. 32. These amendments were instigated by recent exposures and suggestions of illegal and improper practices in connection with bankruptcy proceedings or administration. They do not constitute a complete revision of the Bankruptcy Act but were rather designed to provide, as an interim measure, remedies to the most urgent areas of complaints. They provide the Superintendent of Bankruptcy with direct and immediate authority in the field of investigation and inquiry, and tighten the procedures and requirements in a number of areas, such as that of proposals which an insolvent person may make to his creditors. In other words, these amendments were intended to provide remedies in situations where it had been shown by experience that abuses of the bankruptcy process are most likely to occur. The amendments also contain a new Part X entitled "The Orderly Payment of Debts" which may come into force in any province at the request of the provincial authorities concerned. This part came into force in Alberta on Apr. 17, 1967, and in Manitoba on June 1, 1967.

* Prepared by the Superintendent of Bankruptcy, Ottawa.

1.—Summary Statistics of Estates Closed during 1965 under the Bankruptcy Act

Province or Territory	BANKRUPTCIES UNDER GENERAL PROVISIONS OF THE ACT ¹					
	Estates Closed	Assets as Estimated by Debtors	Liabilities as Estimated by Debtors	Realization by Trustee	Costs of Admini- stration	Costs as Percentage of Realization
	No.	\$	\$	\$	\$	p.c.
Nfld.....	—	—	—	—	—	—
P.E.I.....	9	393,000	321,000	90,000	38,000	42
N.S.....	35	453,000	1,793,000	154,000	68,000	44
N.B.....	31	203,000	630,000	94,000	32,000	34
Que.....	1,494	11,370,000	41,261,000	4,717,000	2,199,000	46
Ont.....	2,682	15,716,000	70,196,000	5,703,000	2,802,000	49
Man.....	33	920,000	1,915,000	408,000	126,000	31
Sask.....	39	403,000	902,000	133,000	47,000	35
Alta.....	106	874,000	3,746,000	650,000	245,000	38
B.C.....	118	1,304,000	4,239,000	568,000	229,000	41
N.W.T.....	—	—	—	—	—	—
Totals.....	4,547	31,636,000	125,003,000	12,517,000	5,786,000	46

¹ Includes summary administration provisions of the Bankruptcy Act.

1.—Summary Statistics of Estates Closed during 1965 under the Bankruptcy Act—concluded

Province or Territory	BANKRUPTCIES UNDER GENERAL PROVISIONS OF THE ACT ¹			PROPOSALS UNDER SECT. 27 (1)(a)		
	Paid to Unsecured Creditors	Retained by Secured Creditors	Average Percentage Recovered by Credi- tors	Proposals Closed	Unsecured Liabilities as Estimated by Debtors	Paid to Unsecured Creditors
	\$	\$	p.c.	No.	\$	\$
Nfld.....	—	—	—	1	22,000	6,000
P.E.I.....	38,000	158,000	61	1	25,000	4,000
N.S.....	60,000	414,000	26	2	969,000	836,000
N.B.....	42,000	308,000	56	1	26,000	8,000
Que.....	1,499,000	7,688,000	22	189	8,007,000	1,322,000
Ont.....	1,897,000	19,825,000	30	37	6,936,000	969,000
Man.....	233,000	324,000	29	3	244,000	25,000
Sask.....	68,000	106,000	19	—	—	—
Alta.....	316,000	1,030,000	36	2	122,000	56,000
B.C.....	251,000	1,075,000	31	8	569,000	112,000
N.W.T.....	—	—	—	—	—	—
Totals.....	4,404,000	30,928,000	28	244	16,920,000	3,338,000

¹ Includes summary administration provisions of the Bankruptcy Act.

Returns under the Bankruptcy and Winding-Up Acts.*—The DBS statistics concerning bankruptcies and insolvencies cover only the failures coming under federal legislation, i.e., the Bankruptcy Act and the Winding-Up Act. The figures of Table 2 cover business failures only, excluding failures of individuals such as wage-earners, salesmen and executive personnel.

* Prepared by the Business Finance Division, Dominion Bureau of Statistics.

2.—Bankruptcies and Insolvencies under Federal Legislation, by Province, 1957-66

Year	Atlantic Provinces	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.
1957.....	54	1,359	630	26	32	55	57	2,213
1958.....	36	1,376	545	28	18	51	71	2,125
1959.....	36	1,366	658	26	20	47	76	2,229
1960.....	48	1,638	914	34	28	46	120	2,828
1961.....	47	1,450	932	39	25	62	104	2,659
1962.....	33	1,694	1,177	47	36	94	109	3,190
1963.....	60	1,987	1,389	45	37	67	92	3,677
1964.....	67	1,872	1,281	53	30	80	116	3,499
1965.....	43	1,748	1,248	41	22	103	90	3,295
1966.....	40	1,698	1,022	55	29	79	84	3,007

3.—Bankruptcies and Insolvencies under Federal Legislation, by Branch of Business, 1957-66

Year	Agriculture, Forestry, Fishing, Trapping and Mining	Manufacturing	Construction	Transportation, Communications and Storage	Trade	Finance and Public Utilities	Service	Not Classified	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
1957.....	80	366	372	109	928	40	244	74	2,213
1958.....	67	356	367	105	882	42	295	11	2,125
1959.....	81	374	449	76	906	36	307	—	2,229
1960.....	100	423	619	129	1,229	65	363	—	2,828
1961.....	86	285	470	113	1,234	69	402	—	2,659
1962.....	93	326	573	143	1,496	82	477	—	3,190
1963.....	111	365	714	166	1,634	110	577	—	3,677
1964.....	146	327	706	181	1,492	92	555	—	3,499
1965.....	151	346	628	193	1,359	115	503	—	3,295
1966.....	156	323	559	168	1,236	95	470	—	3,007

4.—Estimated Liabilities of Bankruptcies and Insolvencies, 1957-66

Year	Atlantic Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1957.....	2,508	37,266	31,349	5,683	3,056	79,863
1958.....	4,493	40,250	17,884	4,672	5,479	72,778
1959.....	2,302	50,034	34,156	3,866	5,429	95,786
1960.....	3,568	61,851	91,090	7,732	10,307	174,548
1961.....	4,714	49,133	48,352	7,075	7,246	116,520
1962.....	2,566	77,002	55,946	6,843	7,083	149,440
1963.....	3,788	91,467	84,260	8,330	7,757	195,602
1964.....	5,863	111,172	71,193	12,144	8,362	208,734
1965.....	2,513	107,182	258,934	15,234	9,787	393,650
1966.....	5,242	112,681	108,631	10,989	9,924	247,467

5.—Bankruptcies and Insolvencies, by Industry and Economic Area, 1966

Industry	Atlantic Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Total	Total Liabilities
	No.	No.	No.	No.	No.	No.	\$'000
Primary Industries.....	7	61	63	18	7	156	16,743
Manufacturing.....	—	207	100	11	5	323	42,121
Foods and beverages.....	—	8	7	2	1	18	3,775
Textiles.....	—	3	—	—	—	3	101
Clothing.....	—	40	7	1	1	49	5,504
Wood.....	—	61	29	3	2	95	10,159
Paper and allied industries.....	—	29	13	1	1	44	2,881
Primary and fabricated metal, machinery, transportation equipment, electrical products and non-metallic mineral products.....	—	32	25	3	—	60	16,075
Chemical.....	—	8	1	—	—	9	622
Other industries.....	—	26	18	1	—	45	3,004
Construction.....	8	312	184	39	16	559	38,992
General contractors.....	3	133	61	17	5	219	22,083
Special trade contractors.....	5	179	123	22	11	340	16,819

5.—Bankruptcies and Insolvencies, by Industry and Economic Area, 1966—concluded

Industry	Atlantic Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Total	Total Liabilities
	No.	No.	No.	No.	No.	No.	\$'000
Transportation, Communications and Other Utilities.....	3	89	61	9	6	168	8,442
Trade.....	18	702	412	68	36	1,236	57,482
Food.....	1	124	51	11	3	190	9,631
General merchandise.....	3	18	27	1	2	51	1,858
Automotive products.....	5	164	109	31	12	321	12,728
Apparel and shoes.....	2	121	56	6	5	190	7,495
Hardware.....	1	41	22	5	2	71	8,202
Household furniture and appliances.....	3	94	51	5	2	155	6,805
Drugs.....	1	8	5	—	—	14	886
Other trades.....	2	132	91	9	10	244	9,877
Finance, Insurance and Real Estate.....	—	52	38	2	3	95	62,427
Service.....	4	275	164	16	11	470	21,350
Education, health and welfare.....	—	16	12	—	1	29	1,319
Recreational.....	—	37	13	1	1	52	5,581
Business.....	1	33	15	2	1	52	2,143
Personal.....	3	174	97	13	8	295	10,797
Other.....	—	15	27	—	—	42	1,510
Totals.....	40	1,698	1,022	163	84	3,007	247,467

PART IV.—PRICES*

Section 1.—Index Numbers of Wholesale Prices

The term "wholesale prices" refers to transactions that occur below the retail level. It has more of a connotation of bulk purchase and sale than of any homogeneous level of distribution. Wholesale price indexes and individual price series have numerous uses, one of the most important of which is in escalator clauses of contracts where prices quoted are linked to movements of specified price indexes. They are also of major importance in studies of replacement and construction costs in investment projects; analyses of price movements of both individual items and commodity groups in relation to purchases and sales; industrial planning and market analysis; valuations for tax purposes and inventory analysis; and studies of changes in physical volume. Foreign companies also utilize the indexes in assessing the competitive position of Canadian goods.

General Wholesale Index.—The general wholesale index mainly includes manufacturers' prices but also incorporates those of wholesalers proper, assemblers of primary products, agents and operators of other types of commercial enterprises which trade in commodities of a type, or in quantities characteristic of primary marketing functions. Prices are grouped according to a commodity classification scheme based on chief component material similarities. Indexes classified according to degree of manufacture are also available. In Table 1, the general wholesale index is presented for the period 1939-66. This index is used as a conventional summary figure against which to observe the behaviour of particular price groups such as farm products, raw materials and building materials, for which separate price indexes have been constructed. Table 2 gives, for the years 1957-66, the general wholesale price index and two of its integral classifications—raw and partly manufactured goods, and fully and chiefly manufactured goods; also presented are two

* Prepared in the Prices Division, Dominion Bureau of Statistics.

related systems—industrial materials and Canadian farm products. Annual price index numbers of non-residential building materials and residential building materials are given for 1957-66 in Tables 3 and 4, respectively; during 1966 the price samples of both of these indexes were overhauled and the price indexes given for that year are on the new sample basis.

In addition to the summary tables presented in this Section, DBS monthly publication *Prices and Price Indexes* (Catalogue No. 62-002) contains indexes of principal component groups of the wholesale price index. Other industrial price indexes included in the publication are: monthly selling prices of about 100 Canadian manufacturing industries, including commodity details; a system of annual bid price indexes relating to highway construction in which price movements are shown for completed units of work such as earth excavation and crushed gravel put in place; and price indexes for construction of transmission lines, distribution systems and transformation and switching stations of electrical utilities, based on labour, material and capital inputs into these facilities. (See also DBS publications, Catalogue Nos. 62-616, 62-520 and 62-526, respectively.) The monthly DBS publication *Prices and Price Indexes* also contains current series on retail price indexes and security prices indexes covered in Sections 2 and 4 following.

1.—General Wholesale Index Annual Averages, 1939-66

(1935-39=100)

Year	Average	Year	Average	Year	Average	Year	Average
1939.....	99.2	1946.....	138.9	1953.....	220.7	1960.....	230.9
1940.....	108.0	1947.....	163.3	1954.....	217.0	1961.....	233.3
1941.....	116.4	1948.....	193.4	1955.....	218.9	1962.....	240.0
1942.....	123.0	1949.....	198.3	1956.....	225.6	1963.....	244.6
1943.....	127.9	1950.....	211.2	1957.....	227.4	1964.....	245.4
1944.....	130.6	1951.....	240.2	1958.....	227.8	1965.....	250.4
1945.....	132.1	1952.....	226.0	1959.....	230.6	1966.....	259.5

The general wholesale index in 1966 registered the sharpest annual increase since the beginning of the expansion in economic activity in 1961. The average annual level, at 259.5, was 3.6 p.c. higher than the 1965 index. Increases were recorded by all the principal components; animal products led with a rise of almost 10 p.c. and non-ferrous metals and vegetable products also recorded increases higher than the average general wholesale index rise. The upward movements in animal and vegetable products were reflected in the sharper increase in the raw and partly manufactured goods index (5 p.c.) than in the fully and chiefly manufactured goods index (2.9 p.c.). The main increases in the raw and partly manufactured goods index came in the early and the closing months of the year with relative stability in the mid-year months; the fully and chiefly manufactured goods index, on the other hand, rose throughout the first three quarters of the year and levelled off in the final quarter. The impressions gained from these average annual movements were confirmed by the rise of 3.6 p.c. in the price index for Canadian farm products, as opposed to the 1-p.c. rise in the special-purpose industrial materials index. (The farm products index is preliminary, pending farmers' receipts of final payments by the Canadian Wheat Board.)

As shown in Tables 3 and 4, the price indexes of non-residential and residential building materials rose by 2.9 p.c. and 3.7 p.c., respectively, in 1966.

2.—Annual Index Numbers of Wholesale Price Groups, 1957-66

(1935-39=100)

Year	General Wholesale Index	Raw and Partly Manufactured Goods	Fully and Chiefly Manufactured Goods	Industrial Materials	Canadian Farm Products		
					Field	Animal	Total
1957.....	227.4	209.4	237.9	240.3	169.2	258.0	213.6
1958.....	227.8	209.3	238.3	229.8	171.4	274.5	222.9
1959.....	230.6	210.9	241.6	240.2	176.1	271.6	223.9
1960.....	230.9	209.6	242.2	240.4	189.1	264.1	226.6
1961.....	233.3	212.6	244.5	243.2	191.7	270.0	230.9
1962.....	240.0	223.8	249.0	248.0	195.5	286.0	240.8
1963.....	244.6	226.9	254.2	253.5	197.2	275.4	236.3
1964.....	245.4	225.7	256.4	258.3	198.2	267.3	232.7
1965.....	250.4	231.2	261.3	258.7	210.3	289.3	249.8
1966.....	259.5	242.7	268.9	261.4	195.8 ^p	321.5 ^p	258.7 ^p

3.—Annual Price Index Numbers of Non-residential Building Materials, 1957-66

(1949=100)

NOTE.—Details of weighting and construction and historical series appear in DBS publication *Price Index Numbers of Non-residential Building Materials, 1935-52* (Catalogue No. 62-506). Revised item list and weighting, effective January 1966, is available on request.

Year	Composite Index	Principal Components						
		Steel and Metal Work	Plumbing, Heating and Other Equipment	Electrical Equipment and Fixtures	Concrete Products	Lumber and Lumber Products	Blocks, Brick and Stone	Tile
GROUP WEIGHT AS A PERCENTAGE OF TOTAL.....	...	20.1	21.4	11.5	11.1	10.5	9.1	3.8
1957.....	130.0	147.7	124.1	118.4	119.4	128.7	134.0	118.5
1958.....	129.8	150.9	123.8	114.0	119.6	126.8	135.7	118.2
1959.....	131.7	152.6	126.0	119.2	118.6	131.3	137.4	118.3
1960.....	132.3	152.9	126.7	119.5	119.8	129.0	139.1	121.0
1961.....	131.1	153.2	126.3	113.8	119.8	127.6	133.0	123.9
1962.....	131.9	153.3	127.4	114.0	122.0	130.8	130.9	125.0
1963.....	135.1	157.1	127.1	118.6	126.0	136.6	135.2	128.9
1964.....	139.6	164.2	129.4	120.3	129.0	147.4	141.9	134.3
1965.....	146.8	177.7	137.1	120.5	133.5	154.6	149.3	143.2
1966.....	151.0	180.0	141.2	128.8	139.1	160.9	153.5	150.3

4.—Annual Price Index Numbers of Residential Building Materials, 1957-66

(1949=100)

NOTE.—Details of weighting and construction and historical series appear in DBS publication *Price Index Numbers of Residential Building Materials, 1926-48* (Catalogue No. 62-505). Revised item list and weighting, effective January 1966, is available on request.

Year	Com- posite Index	Principal Components								
		Con- crete Prod- ucts	Bricks	Lumber and its Prod- ucts	Wall- board and Insu- lation	Roof- ing Mate- rial	Paint and Glass	Plumb- ing and Heat- ing Equip- ment	Elec- trical Equip- ment and Fix- tures	Metal Prod- ucts
GROUP WEIGHT AS A PER- CENTAGE OF TOTAL.....	...	7.6	5.0	42.6	11.3	2.9	3.2	18.6	3.8	5.0
1957.....	128.4	120.9	148.2	128.9	115.9	133.0	125.5	126.3	120.6	145.3
1958.....	127.3	123.5	148.7	127.2	118.4	123.6	126.2	127.5	107.8	145.4
1959.....	130.0	121.1	150.9	130.7	119.3	125.6	127.7	128.5	116.3	147.1
1960.....	129.2	121.7	151.9	129.1	120.6	112.6	128.3	130.5	114.3	150.1
1961.....	128.3	120.5	145.0	128.0	122.6	107.1	131.2	131.0	112.0	149.9
1962.....	129.7	120.5	143.6	130.4	126.2	112.0	132.9	128.6	114.0	148.4
1963.....	133.9	123.8	149.3	135.5	127.9	124.2	142.8	130.2	118.1	143.2
1964.....	142.5	127.5	154.6	146.6	134.3	132.1	149.9	134.3	120.0	148.5
1965.....	148.9	132.4	163.2	153.9	139.1	128.0	157.3	141.2	120.1	152.5
1966.....	154.4	138.7	166.8	161.3	141.1	127.8	159.6	142.1	133.8	151.5

World Wholesale Price Indexes.—Price changes within different countries have varied widely during the years. Comparisons of Canadian wholesale price indexes with those of other countries are given in Table 5.

5.—Index Numbers of Wholesale Prices in Canada and Other Countries, 1964-66

(1958=100)

SOURCE: *United Nations Monthly Bulletin of Statistics*, June 1966.

Country	1964	1965	1966	Country	1964	1965	1966
Belgium.....	109	110	112	India.....	134	145	165
Brazil.....	1,273	1,925	..	Iran ¹	108	111	..
Britain.....	106	107	109	Ireland.....	113	117	120
Canada.....	108	110	114	Korea, Republic of ²	201	221	238
Chile.....	345	429	527	Netherlands.....	108	111	117
Denmark.....	111	115	118	New Zealand.....	110	111	112
Dominican Republic (Santo Domingo).....	109	117	111	Norway.....	109	112	114
France.....	119	121	123	Sweden.....	115	120	124
Germany, Federal Republic of.....	104	107	109	Switzerland ³	101	102	104
Greece.....	114	119	123	Turkey.....	142	154	162
				United Arab Republic.....	105	113	122
				United States.....	100	102	105

¹ Base Mar. 21, 1959—Mar. 20, 1960=100.² Base 1960=100.³ Base 1963=100.

Section 2.—Consumer Price Index*

The purpose of the consumer price index is to measure the movement from month to month in retail prices of goods and services bought by a representative cross-section of the Canadian urban population. For a particular article or service, a price index number is simply the price of the article in one period of time expressed as a percentage of its price in a reference period, usually called a base period. However, indexes for individual goods

* A comprehensive description of the index is contained in the publication *The Consumer Price Index (1949=100)*—Revision Based on 1957 Expenditures (Catalogue No. 62-518).

may be combined to form indexes representing prices of broad groups of goods and services. Thus, the consumer price index relates to the wide range of goods and services bought by Canadian urban families. The index expresses the combined prices of such goods each month as a percentage of their prices in the base period 1949.

The group of goods and services represented in the index is called the index "basket" and "weights" are assigned to the price indexes of individual items for purposes of combining them into an over-all or composite index. The weights reflect the relative importance of items in expenditures of middle-size urban families with medium incomes. The basket is an unchanging or equivalent quantity and quality of goods and services. Only prices change from month to month and the index, therefore, measures the effect of changing prices on the cost of purchasing the fixed basket. The basket and weights now used in the index are based on expenditures in 1957 of families of two to six persons, with annual incomes of \$2,500 to \$7,000, living in cities of 30,000 population or over.

6.—Consumer Price Index Numbers, 1940-67

(1949=100)

Year	Index	Year	Index	Year	Index	Year	Index
1940.....	65.7	1947.....	84.8	1954.....	116.2	1961.....	129.2
1941.....	69.6	1948.....	97.0	1955.....	116.4	1962.....	130.7
1942.....	72.9	1949.....	100.0	1956.....	118.1	1963.....	133.0
1943.....	74.2	1950.....	102.9	1957.....	121.9	1964.....	135.4
1944.....	74.6	1951.....	113.7	1958.....	125.1	1965.....	138.7
1945.....	75.0	1952.....	116.5	1959.....	126.5	1966.....	143.9
1946.....	77.5	1953.....	115.5	1960.....	128.0	1967.....	149.0

The behaviour of the consumer price index during the years of almost continuous economic growth following the end of the Second World War up to 1959 is discussed in the 1962 Year Book at pp. 928-929 and the movement during 1959-65 in subsequent editions. Between 1965 and 1966 the rate of consumer price rise advanced, averaging 3.7 p.c., with the largest increases occurring in food (6.3 p.c.), clothing (3.8 p.c.) and health and personal care (3.1 p.c.). In 1967 the upward trend continued with prices averaging 3.5 p.c. higher than the previous year. The largest increases occurred in health and personal care (5.1 p.c.), recreation and reading (5.1 p.c.), clothing (5.0 p.c.) and food (1.3 p.c.).

7.—Consumer Price Index Numbers, 1958-67

(1949=100)

Year	Food	Housing	Clothing	Transportation	Health and Personal Care	Recreation and Reading	Tobacco and Alcohol	Composite Index
GROUP WEIGHT AS A PERCENTAGE OF TOTAL.....	27	32	11	12	7	5	6	100
1958.....	122.1	129.0	109.7	133.8	145.4	138.4	110.6	125.1
1959.....	121.1	131.4	109.9	138.4	150.2	141.7	114.0	126.5
1960.....	122.2	132.7	110.9	140.3	154.5	144.3	115.8	128.0
1961.....	124.0	133.2	112.5	140.6	155.3	146.1	116.3	129.2
1962.....	126.2	134.8	113.5	140.4	158.3	147.3	117.8	130.7
1963.....	130.3	136.2	116.3	140.4	162.4	149.3	118.1	133.0
1964.....	132.4	138.4	119.2	142.0	167.8	151.8	120.2	135.4
1965.....	135.9	140.9	121.4	147.3	175.5	154.3	122.3	138.7
1966.....	144.5	144.7	126.0	150.8	180.9	158.7	125.1	143.9
1967.....	146.4	151.0	132.3	157.2	190.2	166.8	128.3	149.0

Table 8 gives single commodity price relatives for a number of important items entering into the food component of the consumer price index.

8.—Urban Average and Relative Retail Prices of Staple Foods, 1958-67

(1949=100)

Year	Beef, sirloin, per lb.		Pork, rib chops, per lb.		Butter, creamery, per lb.		Eggs, "A", fresh, per doz.		Milk, fresh, per qt.	
	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative
	cts.		cts.		cts.		cts.		cts.	
1958.....	94.4	134.1	72.5	127.4	69.2	107.0	57.9	94.1	23.2	130.4
1959.....	101.0	143.5	67.6	118.9	69.6	107.8	54.4	88.4	23.4	131.0
1960.....	97.7	138.8	69.8	122.8	69.8	108.0	54.5	88.6	23.7	133.0
1961.....	97.1	138.0	72.8	128.0	69.9	108.2	56.3	91.5	23.5	132.0
1962.....	107.4	152.5	74.9	131.7	62.1	96.0	53.2	86.5	23.6	132.4
1963.....	103.7	147.4	74.4	130.9	58.5	90.5	58.4	94.9	23.8	134.0
1964.....	99.9	141.9	73.1	128.4	58.9	91.2	50.7	82.4	24.6	138.2
1965.....	106.6	151.4	81.4	143.2	61.4	95.0	54.3	88.3	25.0	140.5
1966.....	116.7	165.8	91.0	160.1	67.1	103.8	64.1	104.2	26.8	150.5
1967.....	123.7	175.6	85.1	149.6	70.4	109.0	54.1	88.0	29.0	162.9
	Flour, per lb.		Tomatoes, canned, 28-oz. tin		Potatoes, 10 lb.		Sugar, granulated, per lb.		Bread, per lb.	
	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative
	cts.		cts.		cts.		cts.		cts.	
1958.....	8.0	114.3	26.6	132.2	45.7	131.2	10.6	114.4	14.8	146.3
1959.....	8.4	119.9	27.3	136.1	48.9	140.3	9.4	101.4	15.2	150.9
1960.....	8.8	125.5	27.8	138.2	58.0	166.5	9.4	101.7	15.6	154.5
1961.....	9.0	128.9	27.0	134.5	47.8	137.2	9.6	103.8	15.9	157.6
1962.....	9.8	141.0	26.6	132.7	47.3	135.9	9.5	103.4	16.4	162.2
1963.....	10.3	147.4	27.1	135.0	51.4	147.7	15.7	170.1	17.2	170.4
1964.....	10.8	156.0	31.5	156.8	59.6	171.1	14.1	153.1	18.1	178.7
1965.....	10.9	157.2	34.5	171.9	76.7	220.3	9.8	106.8	18.1	179.1
1966.....	11.4	164.0	35.8	178.6	64.0	183.7	9.5	103.3	19.0	188.3
1967.....	11.8	169.7	35.5	177.2	56.1	160.9	9.4	101.3	19.0	188.8

Consumer Price Indexes for Regional Cities.—Table 9 gives regional consumer price indexes for ten cities or city combinations. These indexes do not show whether it costs more or less to live in one city than in another and should not be used for such comparisons. Their function is to measure percentage changes in retail prices—over a certain time in each city or city combination—of a fixed basket of goods and services representing the level of consumption of a particular group of families.

9.—Consumer Price Indexes for Regional Cities, 1958-67

(1949=100)

Year	St. John's, Nfld. (1951 = 100)	Halifax, N.S.	Saint John, N.B.	Mont- real, Que.	Ottawa, Ont.	Toron- to, Ont.	Winni- peg, Man.	Saska- toon- Regina, Sask.	Edmon- ton- Cal- gary, Alta.	Van- couver B.C.
1958.....	112.0	122.9	125.3	125.5	125.5	128.6	123.0	122.0	121.4	125.6
1959.....	114.3	125.9	127.7	126.9	126.9	128.9	123.7	123.1	123.0	127.9
1960.....	115.5	127.2	129.2	127.9	128.6	130.4	125.6	124.4	124.1	129.0
1961.....	116.7	128.5	130.2	129.3	130.2	131.2	127.5	125.4	125.0	129.4
1962.....	117.6	130.2	131.4	130.9	131.7	132.4	129.1	127.5	126.2	129.8
1963.....	120.0	131.5	133.4	133.0	134.0	134.6	130.3	128.5	127.6	131.8
1964.....	121.3	132.0	134.8	135.1	136.0	136.9	132.3	129.8	128.2	132.7
1965.....	123.1	134.4	136.9	138.0	138.4	140.2	135.3	131.9	130.1	135.2
1966.....	126.0	138.0	140.4	142.1	143.7	146.4	139.4	135.8	134.4	138.5
1967.....	129.4	141.2	144.7	147.7	147.3	150.7	144.4	139.6	139.8	143.6

World Retail Price Indexes.—In order to place changes in Canadian retail prices in perspective with those occurring elsewhere, Table 10 provides consumer price indexes for selected countries for 1964, 1965 and 1966. These indexes measure price changes only within each country and should not be used to compare actual levels of living costs from country to country.

10.—Consumer Price Index Numbers in Canada and Other Countries, 1964-66

(1958=100)

SOURCE: *United Nations Monthly Bulletin of Statistics*, June 1966

Country	1964	1965	1966	Country	1964	1965	1966
Belgium.....	111	115	120	Iran.....	132	135	134
Brazil (São Paulo).....	1,266	2,048	3,003	Ireland.....	117	123	127
Britain.....	115	121	126	Korea, Republic of (Seoul)...	201	228	256
Canada.....	108	111	115	Netherlands.....	119	126	133
Chile (Santiago).....	400	515	632	New Zealand.....	115	119	123
Denmark.....	126	134	142	Norway.....	120	125	129
Dominican Republic (Santo Domingo).....	112	110	110	Sweden.....	119	125	133
France (1962=100).....	108	111	114	Switzerland.....	114	118	124
Germany, Federal Republic of.....	114	118	122	Turkey (Istanbul).....	157	164	178
Greece (1959=100).....	107	110	116	United Arab Republic (Cairo).....	103	118	128
India.....	131	143	159	United States.....	107	109	112

Section 3.—Consumer Expenditure

A continuing program of surveys of family expenditure in urban areas was begun in 1953, and surveys were conducted since then at two-year intervals up to and including 1959. No expenditure surveys were taken in 1961, the decennial census year, but the regular program was resumed in 1962 when monthly surveys of food expenditure were

made throughout the year and a recall survey of the complete budget was made in February and March 1963. Early in 1965 a recall survey of the complete budget was made, referring to the calendar year 1964.

The primary purpose in most of these surveys was to collect information for reviewing and revising, when necessary, the weights of the consumer price index. Therefore the surveys, with the exception of those for 1959 and 1964, were restricted to cover only the families comparable in composition and income level to the consumer price index target group which was selected for index number purposes from a nation-wide survey conducted in 1947-48. For each of the four survey periods covering 1953, 1955, 1957 and 1962, respectively, the program consisted of a series of monthly surveys in which the major objective was the collection of detailed expenditure data on food, followed by a recall survey of all expenditures and income for the same calendar year. Detailed results for each survey have been published in two series of occasional publications of which the latest are: *Urban Family Food Expenditure, 1962* (Catalogue No. 62-524) and *Urban Family Expenditure, 1962* (Catalogue No. 62-525).

In the 1959 and 1964 survey programs the monthly surveys were omitted and the recall surveys were enlarged in size and scope, referring in 1959 to all families and individuals in cities with populations of 15,000 or over, and in 1964 to all families and individuals in eleven cities. The decision to limit the sample in 1964 to selected major cities was based on the desire to produce representative data for individual cities, in contrast to the broader regional representation afforded by the 1959 survey. Summary results of the 1959 survey appear in the 1962 Year Book at pp. 934-937, and of the 1964 survey in the 1966 Year Book at pp. 947-949. Detailed results for these two surveys are published in *Urban Family Expenditure, 1959* (Catalogue No. 62-521) and *Urban Family Expenditure, 1964* (Catalogue No. 62-527).

The next survey will be made early in 1968 to cover the calendar year 1967.

Section 4.—Security Price Indexes

Security price indexes measure, through time, the effect of price change on the value of a portfolio of stocks bought and held by a hypothetical investor (as opposed to the more speculative trader). The portfolio represents stocks of Canadian companies listed on the Toronto, Montreal and Canadian stock exchanges. In the case of the mining and the two supplementary indexes (primary oils and gas, and uraniums), eligible issues are for producing mines and wells only. The number of shares held for each issue is in proportion to the total number of shares outstanding. Prices in the weekly common stock indexes (investors, mining and supplementary indexes) are Thursday's closing quotations. For the monthly preferred stock indexes, prices are monthly weighted averages of the daily closing prices in which weights are daily total sales. The indexes express current prices as a percentage of prices in 1956. Monthly and certain weekly indexes appear in the DBS monthly publication *Prices and Price Indexes* (Catalogue No. 62-002) and a weekly DBS report gives indexes on a weekly basis for all groups and sub-groups.

The investors index is comprised of three major groups, with relative importance indicated by percentage weights as follows: industrials, 67.5; utilities, 18.6; and finance, 13.9. Each major group is further divided into industry sub-groups corresponding to the standard industrial classification, adopted as the basis of classification in the revision of the index to the 1956=100 base. The mining index is composed of two groups: base metals with a weight of 64.6 p.c. and golds with a weight of 35.4 p.c. The two supplementary indexes of common stocks—primary oils and gas, and uraniums—and the index of preferred stocks are not divided into component groups.

11.—Investors Index Numbers of Common Stocks, by Month, 1965 to Mid-1967

(1956=100)

Year and Month	Industrials										Utilities					Finance			Investors Composite Index				
	In-dus-trial Mines	Food	Bev-erages	Text-iles Cloth-ing	Pulp and Paper	Print-ing and Pub-lish-ing	Pri-mary Met-als	Metal Fab-ricat-ing	Non-fer-rous Min-erals	Pe-tro-leum	Chem-icals	Con-struction	Re-tail Trade	Indus-trial Trans-ports	Pipe-lines	Tele-phones	Elec-tric Power	Gas Dis-tribu-tion		Util-ities Total	Banks	Invest-ment Loan	Fi-nance and Total
1965																							
Jan....	186.0	203.6	243.5	370.5	173.4	359.4	129.0	147.1	178.4	127.7	193.1	85.2	271.5	181.0	202.6	196.2	148.4	127.4	285.7	173.5	151.0	184.8	162.7
Feb....	184.7	205.9	250.3	370.4	173.7	367.9	128.6	147.2	180.5	127.9	193.7	87.9	276.3	182.0	213.1	190.9	144.5	127.2	281.0	172.0	152.8	187.7	177.8
Mar....	191.4	212.4	254.7	393.2	173.4	383.9	130.4	148.5	180.8	125.8	200.4	89.1	278.7	185.3	210.8	187.4	145.7	128.0	281.7	171.6	152.2	187.0	180.0
Apr....	195.7	221.1	258.2	386.4	174.2	403.3	133.5	151.5	179.2	124.8	193.9	91.1	272.3	187.5	205.2	185.2	142.6	131.8	278.0	169.8	148.3	183.3	160.4
May....	202.2	228.8	262.5	382.5	167.8	425.7	137.3	146.6	181.5	124.9	193.1	92.1	284.2	190.7	203.6	180.6	142.9	137.2	294.8	173.2	149.8	187.1	183.7
June....	190.8	217.4	294.2	353.1	157.3	413.9	127.1	138.3	170.5	117.1	182.6	84.8	269.4	180.2	194.7	179.6	138.8	121.7	283.7	166.3	140.3	177.0	174.0
July....	182.6	210.4	292.4	323.5	147.9	402.8	118.7	130.6	164.0	113.0	172.8	80.4	255.6	171.0	187.8	176.7	132.6	129.6	274.8	162.4	136.9	165.5	166.0
Aug....	191.4	215.4	243.9	319.0	148.4	415.4	129.1	136.1	167.1	115.6	176.8	82.0	262.8	176.3	202.8	180.1	136.4	120.4	284.0	162.4	137.8	165.9	170.2
Sept....	197.4	219.5	243.4	333.6	147.7	430.7	123.5	142.3	168.5	117.2	176.5	83.8	281.4	180.2	214.0	180.7	138.3	120.1	296.4	174.3	140.5	172.3	173.5
Oct....	203.8	220.7	235.5	333.4	142.2	459.9	123.8	146.8	139.8	117.0	170.3	84.9	280.6	182.0	215.7	178.4	136.1	151.6	301.8	173.9	138.3	172.3	176.4
Nov....	209.8	219.2	234.5	346.0	138.4	472.2	123.4	150.6	136.8	118.0	171.6	87.0	285.2	183.8	223.0	176.7	136.3	158.2	310.4	176.8	134.6	176.7	177.8
Dec....	203.0	213.9	228.7	331.5	136.6	460.5	121.2	147.9	149.4	117.3	160.9	85.9	273.2	179.0	212.3	176.0	133.7	156.8	315.2	174.4	136.3	168.6	147.5
1966																							
Jan....	211.6	223.1	239.1	334.6	146.9	474.1	133.6	148.6	158.6	121.4	165.5	90.9	281.3	187.3	212.8	179.2	141.5	164.8	339.4	181.9	147.1	173.5	156.3
Feb....	210.4	227.0	232.6	362.0	148.2	466.8	134.2	148.3	153.0	123.2	164.2	93.4	277.7	186.7	202.6	175.6	137.6	164.8	338.1	178.3	142.4	171.2	152.4
Mar....	201.5	219.1	223.5	344.3	149.1	470.4	131.9	142.8	146.2	121.5	154.2	88.0	269.5	181.8	197.6	169.1	133.9	157.3	328.5	172.5	136.9	160.0	144.9
Apr....	206.6	218.0	218.2	351.0	146.0	488.0	139.4	148.0	146.0	124.9	155.9	88.0	272.3	185.2	194.2	166.7	131.7	162.5	334.4	172.4	138.8	162.4	147.0
May....	194.4	208.2	206.8	337.7	140.8	478.0	129.2	150.1	143.8	122.6	147.3	84.6	265.5	177.7	189.8	160.8	122.7	157.8	320.6	165.1	136.0	156.4	143.1
June....	193.2	210.3	212.9	335.6	139.0	480.4	129.5	149.3	143.8	122.4	150.3	84.6	268.3	177.7	201.7	158.5	122.0	154.8	326.4	165.9	135.6	162.3	141.5
July....	195.2	211.4	201.9	315.4	140.4	480.1	121.6	150.4	144.0	123.6	152.8	81.8	267.7	176.2	201.6	157.9	120.2	156.0	323.4	165.1	132.8	148.6	138.4
Aug....	181.0	205.5	194.5	289.8	136.5	452.0	114.6	141.7	141.3	121.4	145.9	77.0	254.3	168.1	191.1	154.1	117.4	144.8	303.5	157.7	126.7	142.4	132.2
Sept....	171.8	196.4	183.9	332.1	132.1	437.0	100.3	109.1	130.4	116.3	140.0	72.1	243.5	168.1	184.2	147.9	114.7	135.5	286.8	151.0	122.2	138.8	128.0
Oct....	167.6	188.8	185.7	251.4	128.3	438.0	100.3	109.1	127.7	118.9	134.0	66.9	237.7	154.6	175.1	147.0	109.0	130.1	282.2	146.0	120.9	133.1	125.9
Nov....	171.3	191.6	197.5	253.5	129.7	465.7	101.0	108.1	124.1	125.0	134.8	61.9	238.1	158.8	175.4	149.2	109.5	127.3	292.5	147.0	123.3	136.3	127.9
Dec....	179.6	194.7	204.4	261.5	124.8	483.9	99.4	106.7	120.8	131.2	129.4	61.9	234.4	161.8	181.0	152.1	110.9	125.6	299.6	149.1	122.6	132.4	126.1
1967																							
Jan....	185.2	200.4	218.5	285.2	132.6	512.4	109.6	114.8	130.2	141.0	134.4	65.0	243.4	171.1	187.6	161.6	115.2	131.9	312.3	156.0	130.3	141.5	134.3
Feb....	189.2	205.8	224.4	285.5	142.5	527.6	115.0	119.0	133.4	142.8	142.8	67.0	247.1	176.3	202.9	164.3	116.2	140.8	322.6	160.9	136.8	151.0	141.8
Mar....	186.1	211.9	232.8	263.2	148.8	553.5	113.4	118.7	137.3	139.1	149.5	63.8	250.2	177.4	212.3	170.8	120.3	141.8	322.8	166.1	146.4	152.3	148.3
Apr....	187.5	215.8	238.4	243.7	147.6	581.0	115.8	117.8	138.7	147.0	151.0	65.8	247.6	180.2	220.1	180.5	120.6	137.0	333.4	170.6	151.1	155.2	152.6
May....	188.5	219.1	240.6	218.2	141.0	637.3	116.0	117.2	145.0	147.1	141.9	66.8	244.9	181.6	221.4	186.2	121.6	137.1	318.6	168.5	150.7	155.6	152.6
June....	193.6	211.3	239.5	205.4	134.4	661.2	108.4	116.9	130.1	152.9	128.5	66.6	244.3	181.7	223.5	183.1	118.8	132.8	337.2	171.0	142.1	147.4	143.6
July....	198.2	210.5	238.6	217.7	133.5	694.1	108.4	119.1	124.4	162.1	124.8	64.6	248.2	185.2	220.7	176.6	116.4	130.8	355.8	175.2	141.6	141.6	147.5
Aug....	201.6	215.7	248.8	223.8	131.8	728.2	110.9	120.0	123.4	164.1	123.0	64.6	256.5	189.3	223.5	197.8	115.3	139.8	375.1	175.7	146.9	144.4	146.2

12.—Index Numbers of Common Stock Supplementary Indexes and Prices of Mining Stocks, by Month, 1965 to Mid-1967

(1956=100)

Year and Month	Supplementary Indexes		Mining Stocks		
	Primary Oils and Gas	Uraniums	Gold	Base Metals	Composite
1965					
January.....	89.2	104.5	142.6	104.8	118.2
February.....	91.8	114.0	138.0	106.5	117.6
March.....	96.2	109.7	139.2	108.0	119.0
April.....	102.7	118.5	136.5	108.6	118.5
May.....	108.9	134.8	130.2	108.3	116.0
June.....	100.7	130.7	127.1	100.6	110.0
July.....	97.0	120.7	134.3	95.0	108.9
August.....	98.9	130.4	136.2	97.6	111.2
September.....	99.0	138.3	132.2	97.4	109.7
October.....	105.7	147.7	125.4	99.2	108.4
November.....	103.2	148.7	128.6	103.0	112.0
December.....	100.0	141.4	127.0	100.9	110.1
1966					
January.....	107.4	147.8	137.3	110.7	120.1
February.....	119.4	150.8	144.8	109.5	122.0
March.....	112.5	151.8	136.2	105.4	116.3
April.....	110.4	170.9	137.4	112.3	121.2
May.....	101.4	172.4	134.0	104.7	115.1
June.....	101.1	190.0	140.5	103.6	116.7
July.....	103.3	214.2	140.8	103.1	116.4
August.....	108.0	197.5	143.0	99.6	115.0
September.....	114.5	188.3	134.3	93.0	107.6
October.....	124.0	196.4	125.6	88.2	101.5
November.....	130.9	198.4	114.8	87.2	96.9
December.....	151.5	189.8	116.9	83.9	95.6
1967					
January.....	160.1	195.0	123.0	91.3	102.6
February.....	154.3	189.5	123.0	92.2	103.1
March.....	158.6	203.9	117.9	89.2	99.3
April.....	165.9	222.1	122.8	87.4	99.9
May.....	159.8	243.1	126.4	83.9	98.9
June.....	173.6	261.2	134.6	83.1	101.3
July.....	190.8	261.5	128.2	84.5	100.0
August.....	205.9	255.4	135.1	86.7	103.9

13.—Index Numbers of Preferred Stocks, by Month, 1958-67

(1956=100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly Av.
1958.....	92.7	94.1	94.8	95.4	97.2	98.6	97.7	98.3	98.6	97.9	97.9	96.1	96.6
1959.....	95.1	96.0	96.1	96.3	97.4	96.6	96.8	95.8	93.4	90.9	90.3	90.2	94.6
1960.....	89.8	89.5	88.6	88.2	89.6	91.7	93.3	94.1	94.8	94.8	94.6	94.3	91.9
1961.....	95.0	95.2	94.9	96.0	97.1	97.7	98.4	98.3	99.5	100.7	100.6	99.9	97.8
1962.....	101.0	100.9	101.3	101.6	102.0	99.3	96.6	97.0	97.3	96.8	98.1	99.3	99.3
1963.....	102.0	101.5	101.2	101.9	103.9	103.5	102.2	101.6	101.6	102.4	102.6	102.7	102.3
1964.....	102.3	102.4	102.0	102.4	102.2	102.8	103.5	103.6	104.3	104.8	105.7	105.6	103.5
1965.....	106.3	106.8	105.2	104.0	103.7	103.5	102.8	101.3	100.9	100.6	100.0	98.1	102.8
1966.....	99.0	98.6	96.1	93.1	90.9	91.9	92.0	91.5	89.2	88.4	87.8	85.3	92.0
1967.....	87.0	89.6	90.7	91.9	91.4	90.2	90.5	90.6	87.2	83.6	82.2	80.0	87.9

CHAPTER XXII.—FOREIGN TRADE

CONSPECTUS

	PAGE		PAGE
Part I.—Canada's International Trade After the Kennedy Round of Trade Negotiations.....	946	Part III.—The Government and Foreign Trade.....	982
Part II.—Foreign Trade Statistics.....	954	SECTION 1. FEDERAL FOREIGN TRADE SERVICES.....	982
SECTION 1. EXPLANATORY NOTES ON CANADIAN TRADE STATISTICS	954	SECTION 2. THE DEVELOPMENT OF TARIFFS	990
SECTION 2. TOTAL FOREIGN TRADE.....	956	Subsection 1. The Canadian Tariff Structure.....	990
SECTION 3. TRADE BY GEOGRAPHIC AREA..	958	Subsection 2. Tariff and Trade Arrangements with Other Countries as at Sept. 15, 1967.....	991
SECTION 4. TRADE BY COMMODITY.....	968	Part IV.—Travel Between Canada and Other Countries.....	999
SECTION 5. TRADE BY SECTION AND STAGE OF FABRICATION.....	975		

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

The subject of foreign trade covers more than the treatment of exports and imports of commodities, important though this is. In its broader sense, foreign trade is made up of the total international interchange of goods, services, securities and other financial transactions, all of which are presented in their appropriate relationship in this Chapter and in Section 4 of Chapter XXIV. Part I contains specially prepared information on the Kennedy Round of trade negotiations and the impact of their implementation on Canada's external trade. Part II gives detailed statistics of that trade. Part III outlines the various ways in which the Federal Government promotes and encourages trade relationships, and contains a brief review of the Canadian tariff structure. Part IV contains a review of the extent of travel between Canada and other countries in 1966, with estimates of the amount of money expended for that purpose.

PART I.—CANADA'S INTERNATIONAL TRADE AFTER THE KENNEDY ROUND OF TRADE NEGOTIATIONS*

In a situation where every country has offered every other country some reciprocal concessions, it is difficult to say what shape and form the Canadian external trade picture is likely to assume after the tariff reductions agreed upon at the Kennedy Round of trade negotiations have been fully implemented. The problem is far more complex than simple arithmetic, adding a quantity here and subtracting a quantity there. Analyzing the precise implications for Canada's trade is all the more difficult when one considers that the concessions will not have been implemented in full until Jan. 1, 1972.

One of the principal objectives of the General Agreement on Tariffs and Trade (GATT), which was negotiated among 23 trading nations including Canada at Geneva in 1947 and put into operation in 1948, is the liberalization of international trade through

* Prepared (February 1968) by G. A. Richardson, Director, External Trade Division, Dominion Bureau of Statistics.

reduction of tariff and non-tariff barriers to the expansion of trade. To this end, six rounds of multilateral trade negotiations have thus far been held under GATT arrangements. The net result of the first five rounds of tariff negotiations conducted under the aegis of the GATT between 1947 and 1962 was an appreciable reduction in some 60,000 tariff rates applied at the end of the Second World War by countries accounting for about 80 p.c. of world trade.

Approach to the Kennedy Round

All the first five rounds were conducted between pairs of countries negotiating reductions on tariffs on specific commodities. The tariff concessions agreed to were automatically extended to all other GATT members under its "most-favoured-nation" clause.* The scope for negotiations on this basis had been nearly exhausted and it was felt that a new basis for future trade negotiations might be linear or "across the board" cuts to be offered by participating countries.

The Kennedy Round was largely a United States initiative. The movement of the European Economic Community (EEC)† toward a common external tariff was exercising increasing discrimination against United States exports.‡ There was also an added threat to the United States agricultural exports posed by the common agricultural policy of the EEC. Another inducement for linear cuts came from the United States Trade Expansion Act of 1962 which replaced the Trade Agreements Act of 1934. Under this new legislation, the President of the United States was empowered to make linear cuts of up to 50 p.c. in United States tariff rates existing on July 1, 1962, and also to abolish duties on tropical products and those that were, on that date, 5 p.c. or less.

Terms of Reference

The stage then for the sixth round of negotiations was set at the GATT Ministerial Meeting in May 1963 when it was decided that comprehensive negotiations, with the widest possible participation, should begin in May 1964, to be conducted on the principle of reciprocity and covering all classes of products, industrial as well as non-industrial. A linear cut of 50 p.c. in tariffs formed the working hypothesis, subject to over-all reciprocity. Both tariff and non-tariff barriers to trade came under study. A number of industrial countries including the United States, Britain, the EEC and Japan adopted the linear approach, and terms of reference included special measures for the reduction of trade barriers to the exports of the less-developed countries, without insisting upon reciprocity.

Canada's Approach

It was recognized from the start that equivalent percentage reductions in tariffs would give a greater advantage to countries with a wider spread of, and higher, tariff rates, and that the working hypothesis of 50-p.c. linear cuts would not be appropriate in all cases on account of the special features of the economies of the countries concerned. This was especially true of Canada, a large proportion of whose exports consist of food-stuffs and primary products with already low tariffs. It was agreed, therefore, that Canada fell in the second category of countries which should offer tariff concessions equivalent, in effects on trade, to the benefits received. These countries, which also included Australia, New Zealand and South Africa, thus adopted the selective approach.

Negotiations and Results

Negotiations began in May 1964. Forty-seven countries, including the six EEC countries bargaining as one unit, all the major trading nations and some 30 less-developed countries, participated. These countries account for around 80 p.c. of world trade. Many difficulties were encountered and progress at times was slow but essential elements

* These concessions were also extended to those countries with which, even though they were not contracting parties to GATT, "most-favoured-nation" terms were exchanged under bilateral trade arrangements.

† Belgium, France, the Federal Republic of Germany, Italy, Luxembourg and the Netherlands.

‡ The common external tariff is scheduled to come into effect on July 1, 1968. It is based on the arithmetical average of the duties applied by member countries on Jan. 1, 1957, and will be applicable to all imports from outside countries.

of the Kennedy Round were finally negotiated by May 15, 1967. The new tariff schedules were signed and announced June 30 when the authority granted to the United States President under the Trade Expansion Act of 1962 was due to lapse.

Two time-tables for implementation were agreed to. The first involves tariff cuts in five equal annual instalments beginning Jan. 1, 1968 and ending Jan. 1, 1972, as provided under the United States Trade Expansion Act. The second time-table meets the convenience of the EEC, which makes a final move to the common external tariff on July 1, 1968. In the latter case, 40 p.c. of the agreed cuts would be implemented on July 1, 1968 and the remaining 60 p.c. in three equal annual instalments beginning Jan. 1, 1970 and ending Jan. 1, 1972. The final and complete adjustments to new tariff levels for all industrial countries would thus come on Jan. 1, 1972.

The agreement includes tariff concessions covering about \$40,000,000,000 (U.S.) of world trade in 1966 terms. The United States offered concessions on approximately \$8,500,000,000 of its imports. There will be an estimated reduction of 35 p.c. in duties by 37 countries accounting for about 75 p.c. of world trade. Average tariff reductions will amount to 38 p.c. in Britain, 35 p.c. in the United States and in the EEC, 30 p.c. in Japan and 24 p.c. in Canada, although reductions on many industrial products will be as much as 50 p.c.

Essential Features

There are four basic elements of the Kennedy Round agreement. The *first* involves the most far-reaching tariff cuts in the 20-year history of the GATT. After full implementation, the average level of duties in the United States, Britain and the EEC will be in the range of 6½ to 8½ p.c., compared with 12 to 18 p.c. prior to the agreement. It is true that the concept of average (in the sense of a simple arithmetic average of tariff rates) can be misleading in that it may conceal important factors such as the high tariff rates on commodities important in trade. On the other hand, low rates of duty on even a large number of unimportant commodities are hardly conducive to the expansion of trade since the duty element in trade in such commodities is insignificant. Nevertheless, it provides a measure of the broad magnitudes and serves to show that the resulting tariff levels on most manufactured goods in the EEC, Britain and the United States will probably cease to constitute any significant barrier to trade.

The *second* important element involves negotiations in the field of agriculture where higher minimum and maximum prices have been negotiated for wheat. This constitutes an important concession by large importing countries like Britain and Japan to such wheat exporters as Canada and Australia. Considering the difficulties involved in working out realistic quality-price relationships under the old International Wheat Agreement, agreement on this point constitutes a major advance. Another important feature lies in the fact that a program of food aid to developing countries has been written into the structure of the new agreement under which all developed countries,* whether exporters or importers of wheat, will make agreed contributions to a 4,500,000 metric ton annual food aid program.

The *third* element is the conclusion of a new anti-dumping code† which provides adequate safeguards for the legitimate interests of foreign exporters and of domestic producers by securing application of the principles already laid down in the GATT.

The *fourth* element was the inclusion, for the first time, of negotiations on non-tariff barriers to trade. The most important point here was the American Selling Price (ASP) system on benzenoid chemicals under which duty is calculated on the wholesale price of the domestic product rather than on the landed cost of the imported product, resulting in considerably higher duty.‡ The EEC, which took special objection to this system,

* The United States, the EEC, Canada, Australia, Britain, Japan, Sweden, Switzerland, Denmark, Norway and Finland. The United States share of the annual contribution will be 42 p.c., that of the EEC 23 p.c. and of Canada 11 p.c.

† To come into effect July 1, 1968.

‡ This system has been in operation under legislation adopted in 1922 when the United States chemical industry was still in an "infant" stage.

agreed to an unconditional cut of 20 p.c. in response to a 50-p.c. cut by the United States. It also offered a further reduction of 30 p.c., should the United States Congress repeal the ASP system. Conditional on this, Belgium, France and Italy agreed to modify "road-use" taxes, which tended to discriminate against cars with larger engines, and Britain agreed to reduce its margin of preference on tobacco imports.

Although the gains from the Kennedy Round in the direction of trade liberalization are larger than any made during the past two decades, the tariff reductions do not cover all products and are relatively small for some. There are many commodities (heavy trucks and aluminum for the EEC and crude oil for the United States, among others) on which tariffs are not being cut at all. There are many others (cotton textiles and leather products) on which reductions are relatively small. Again, there remains a whole set of non-tariff barriers to trade, such as special administrative provisions, quota requirements and others, which are no less an obstacle to trade than the tariff rate structure itself. Thus, despite substantial gains in many areas, the Kennedy Round has not ushered the world economy on to the threshold of a millennium of completely free trade.

Implications for Canada's Trade

What do the Kennedy Round results mean for Canada's external trade? It is possible to answer this question only in very general terms. For one thing, the event is still too recent to permit assessment of its full implications. Secondly, the agreements will become effective only gradually over the next four years,* so that final adjustments will not take place before Jan. 1, 1972. Thus, Canadian industry has four years to make any necessary adjustments which, for a technologically advanced country like Canada, should be adequate.

There are, however, other problems involved in the precise assessment of the impact that the Kennedy Round might have on Canada's trade. The concessions that Canada has received are also available to third countries under the most-favoured-nation clause of the GATT. Even if equal tariff cuts had been made by all (which is by no means the case), the effects on trade of these cuts would be different for different countries because of various factors influencing the results, such as short-run effects as contrasted to long-run effects, the level of the original tariff, the changes made in the rates of tariff, the demand and supply elasticities, the elasticity of substitution between domestic and foreign goods, the quality changes that occur, changes in tastes and preferences of consumers, technological changes, the degree of competition, the production mix and the scale of operations.†

It is difficult to say then with any degree of certainty what will happen with respect to each industry and each commodity. The whole problem can best be viewed in the context of both the opportunity and the challenge that the Kennedy Round offers to the Canadian economy in general and the export industries in particular. There is no doubt that a general lowering of trade barriers—tariff as well as non-tariff—is in the interest of the world as a whole to the extent that it will help expand trade.

Impact on Exports to the U.S.‡—Of the \$3,000,000,000 of Canada's export trade to benefit from the Kennedy Round tariff reductions, almost two thirds is with the United States. Duties, now 5 p.c. or less, will be abolished on \$557,600,000 of Canadian exports. Of this, \$387,100,000 pertains to the lumber and paper group, \$91,500,000 to the fisheries products group, \$28,600,000 to agriculture and \$50,400,000 to other products. A 50-p.c. reduction will be made on exports of \$1,060,000,000 and smaller reductions on another \$298,300,000.

* Canada and the United States made their first of five equal annual reductions Jan. 1, 1968; the EEC, Japan, Britain and other European countries begin July 1, 1968, with two fifths of the agreed reduction.

† It may be well to note here that even though the percentage cuts in the tariffs of the countries concerned are not the same, they are applicable in equal measure to all countries eligible for most-favoured-nation treatment. Similarly, the period allowed for adjustment to change is also generally the same for all countries although in this case two slightly different time schedules have been provided for.

‡ The export figures mentioned in this section are based on United States imports from Canada in 1966 (the last complete year before the agreement) and are in U.S. dollars. Source: *Foreign Trade*, July 1, 1967, Department of Trade and Commerce, Ottawa.

Nickel worth \$175,500,000 will continue to enjoy the present temporary free entry. Items valued at \$45,800,000, not previously bound, are also being bound free.* In the field of agricultural products, 50-p.c. duty reductions will apply to exports of about \$65,000,000 and duty will be eliminated on another \$28,600,000. Duty will be eliminated on fisheries products exports worth \$91,500,000 and reductions, generally of the order of 50 p.c., are to be made on a further \$740,000. This covers about 76 p.c. of Canadian dutiable exports of fisheries products to the United States.

Lumber exports (\$383,900,000) will move into the United States duty-free. Tariffs will be reduced by half to a 7½-to-10-p.c. range for some \$11,200,000 of wooden doors, prefabricated wooden building, birch plywood, particle board, furniture parts and wooden building components. The duty on maple and birch veneer (\$27,000,000) will be halved to 4 p.c. With pulp and newsprint already free of duty, the United States agreed to a 50-p.c. reduction on paper and paper products, valued at \$34,400,000.

Duties were also reduced on chemicals exports valued at \$95,000,000. On synthetic rubber (\$19,000,000), the largest single item in this group, duty is to be reduced from 6½ to 3 p.c. Carbon, carbon black, salt, and dicyandiamide (\$9,900,000) are to enter duty-free. Duties would be cut in half on most other chemicals of interest to Canada. If the ASP system of valuation is repealed by the United States, this would not only mean a greater than 50-p.c. reduction in United States tariffs but might encourage the long-run development of the United States market for Canadian chemicals.

In the iron and steel group, the principal reductions affecting exports of \$94,800,000 will be in the alloy steel field, with smaller reductions in ordinary steels. For other items, such as pig iron and sponge iron (\$22,100,000), current duties of less than 1 p.c. will be eliminated. In other metals, a 20-p.c. tariff reduction will be made on aluminum ingot (\$174,000,000) and a corresponding 20-p.c. reduction in the main semi-fabricated products. In the field of non-metallic minerals, Canadian exports of cement and lime worth \$8,300,000 in 1966 will be free and a 50-p.c. reduction will benefit other exports in this field amounting to \$10,500,000. Duties will be eliminated on cadmium and bismuth and 50-p.c. reductions will apply to copper, molybdenum, magnesium and indium, and copper semi-fabricated products, benefiting Canadian exports of \$122,100,000.†

In the manufactured goods sector, Canadian exports of \$700,000,000 will benefit from a 50-p.c. reduction, except in the case of textiles (a 20-p.c. reduction) and some leather products where the reductions will be smaller. In this sector there are many products of particular interest to Canadian industry where the prospects for increasing exports to the United States will improve as reductions are fully implemented.

Reduced Preference in Britain.—Although about 95 p.c. of Canada's exports to Britain are already duty-free, 60 p.c. of them have to compete with imports from other countries, also enjoying free access to the British market.

As noted earlier, Britain offered an average reduction of 38 p.c. in its most-favoured-nation rates of duty, which would result in some reduction in the margin of preference enjoyed by Commonwealth exports to Britain. However, Britain has agreed to readjust Commonwealth exports of products subject to preferential rates of duty so as to maintain the existing ratios of preference enjoyed by Commonwealth countries. Nevertheless, there will be some reduction in the margin of preference that Canadian products have enjoyed over the products of countries to whose exports to Britain the most-favoured-nation rates apply.

Concessions by the EEC.‡—Over-all tariff reductions will average about 30 p.c. on Canadian exports to EEC countries; these were valued at \$160,000,000 in 1966,

* A bound rate of duty is a rate which the country concerned undertakes not to increase. In this case, it means that the United States has undertaken not to impose duty on the items that have been bound free.

† The United States duty on copper is at present (February 1968) temporarily suspended.

‡ The figures in this section are in Canadian dollars. Source: *Foreign Trade*, July 1, 1967, Department of Trade and Commerce, Ottawa.

excluding wheat exports of \$144,000,000 covered by the new agreement on cereals. Of the non-wheat exports, 50-p.c. reductions will apply to \$37,000,000 worth of Canadian exports, and smaller reductions to the remaining \$123,000,000.

In the agriculture and fisheries groups, Canadian exports worth about \$22,000,000 (excluding wheat) will benefit by varying rates of reduction. Several important agricultural exports to EEC countries, notably oil seeds, already enjoy duty-free entry. In lumber, pulp and newsprint products, the most important reduction by the EEC is in non-newsprint paper (\$9,000,000 in 1966). The reduction in duty on wood pulp will amount to 50 p.c. in addition to the current duty-free annual quota of 1,900,000 metric tons. An annual duty-free quota of 625,000 metric tons will be introduced for newsprint where the rate will continue to be 7 p.c. for exports in excess of quota.

Some \$5,000,000 of iron and steel exports will benefit from slight reductions in tariffs, mainly pig iron, hot-rolled steel rods, structural shapes and sheet piling, and sheets and strips. Canadian textile exports worth \$3,000,000 will receive more than 30-p.c. reductions in EEC tariffs, mainly synthetic fibres, wool papermakers' felts, and mixed fabrics. Dressed furs and fur apparel, valued at \$2,400,000, will enjoy an almost 50-p.c. reduction. Chemicals, valued at \$11,000,000 in 1966, will be affected by an unconditional 20-p.c. reduction in duties and an additional 30-p.c. reduction if the United States abolishes its ASP system of valuation.

In the non-ferrous metals and metal products group, while the EEC made no tariff concession on aluminum from the present rate of 9 p.c., it agreed to establish a bound 5-p.c. annual tariff quota of 130,000 metric tons. There will be reductions of about 20 p.c. on the main semi-fabricated aluminum products (\$1,200,000) and similar reductions in duties on copper bars, rods and other shapes. Duty on magnesium (\$1,200,000) will be reduced from 10 to 8 p.c. and on nickel anodes from 5 to 4 p.c.

Canadian exports of manufactured goods to the EEC, about \$54,000,000 in 1966, are small but growing. Tariffs in this sector will be reduced in general by 50 p.c. to a range of 5 to 8 p.c., benefiting particularly a variety of machinery products such as excavating, agricultural, printing, textile and pulp and paper machinery, electrical equipment and parts including parts of communications equipment, electric wire resistors and spark plugs, ground flying trainers, aircraft equipment and parts. Reductions in the case of computers and card punching machines, radar equipment and chain saws will be smaller.

Tariff Reductions by Japan.*—The most prominent export item in trade with Japan is wheat which amounted to \$90,000,000 of the total dutiable Canadian exports of \$177,000,000 in 1966. Japan is a party to the memorandum of agreement on cereals. Other exports (\$35,000,000) on which Japan has agreed to reduce duties at varying rates include aluminum, copper waste and scrap, newsprint, liquefied petroleum gases, beef tallow and salmon roe. There will be a 50-p.c. reduction in duties on a variety of fully manufactured goods. In addition, a large proportion of Japanese tariff rates will now be bound.

Major Concessions by Nordic Countries.—The four Nordic countries (Norway, Sweden, Finland and Denmark) which negotiated as a unit at the Kennedy Round, are, along with Switzerland, regarded as low-tariff countries. Tariff reductions offered by them will benefit Canadian exports, worth about \$13,000,000 in 1966. Over half of the \$31,000,000 exports to Switzerland will be similarly benefited by Swiss reductions. In some cases (wood pulp), Canadian producers will now be able to compete more effectively with the EFTA countries.

* The figures in this section, in Canadian dollars, are based on Japanese imports from Canada in 1966. Source: *Foreign Trade*, July 1, 1967, Department of Trade and Commerce, Ottawa.

Concessions Made by Canada.*—It has been noted that Canada did not adopt the linear approach to the trade negotiations, but undertook to offer concessions equivalent in terms of their impact on Canadian trade to those offered by other countries. The concessions made by Canada cover some \$2,500,000,000 worth of imports in 1966 terms and, as a result, the general pattern and structure of the Canadian tariff between now and 1972 will be simplified and improved. Import duties† of 20 p.c. or more will now be rare. Rates on final manufactures will generally be in the range of 17½ to 20 p.c. Those on production machinery and producers' equipment will be around 15 p.c. On intermediate products, the rates will be 15 p.c. or less, while some basic materials will be free or almost free.

Duties will be reduced or eliminated on a number of tropical products, both as a measure of assistance to the developing countries and in order to give relief to the Canadian consumer in terms of reduced prices. Likewise, duties will be reduced or removed on a number of agricultural products which will move freely between the United States and Canada. Free entry will now be allowed into Canada in the case of fresh, frozen, dried and pickled fish, including shrimp. There will be a 50-p.c. reduction on most prepared and canned fish. Fish oils will also be subject to reduced duties. A 50-p.c. tariff reduction will apply to unmanufactured Turkish tobacco, and some reduction is being made in the protective rates on cigars, cigarettes and cut tobacco. There is also a 50-p.c. reduction in the net protection element of the duty on whisky, gin, brandy and vodka.

Canadian rates of duty on lumber are being brought more into line with the United States rates. A number of items in the wood products group continue the existing provisions for free entry, and reductions from the present rate of 10 p.c. or more are being made in others. Significant reductions have been provided for in some items in the paper group. Reduced duties on earthenware and stoneware will assist the construction industry, and the consumer may benefit from reductions in tariffs on china, porcelain and semi-porcelain.

Substantial reductions have been made in duties on non-ferrous metals, with free entry for lead, zinc and copper in pigs, blocks and slabs. Reductions have been made also in duties on the manufactures of these metals. In iron and steel, duties are being removed on pig iron and ingots of iron or steel, with reductions on bars, rods, sheet and strips and plates of iron or steel, and on forgings, axles, chains, pipes or tubes, and for manufactures of iron or steel. Duties have been reduced or removed on wire and wire products.

The tariff structure with lower rates in respect of machines and related products has been simplified by the establishment of a single item for machines and control equipment in contrast to the earlier "class or kind made in Canada" concept. A Review Board would recommend full remission of duty for machines not available from indigenous sources. The effect of the remissions along with the new consolidated rate on machines will result in average duties of 9 p.c. or less. Duties are also being reduced on a range of related producers' equipment, such as engines, electric dynamos, generators, transformers, electric motors and insulators, and some dairy machinery, and eliminated on certain poultry-processing equipment, veneer-drying machines and some printing presses. There will be reductions in duties on other electrical and electronic equipment such as telegraph and telephone apparatus, batteries, radios, television sets and phonographs, and the general tariff item for electrical apparatus.

In the field of chemicals, Canada has undertaken not to levy duties above 15 p.c. ad valorem. The duty of 5 p.c. on fertilizers is being removed. On plastics, the rates will be no higher than 10, 12½, 15 or 17½ p.c., depending on the nature and degree of processing of the product. The reductions in duties on textiles agreed to by the industrial

* In Canadian dollars. Source: Department of Trade and Commerce, Ottawa.

† At most-favoured-nation rates, except where otherwise indicated.

countries are generally smaller. Canada made reductions generally by $2\frac{1}{2}$ percentage points, although in some cases reductions reached 5 percentage points and even (knitted goods) $7\frac{1}{2}$ percentage points. Some reductions were made in leather, less in the case of shoes and boots. There is a 50-p.c. reduction in duty on natural crude and synthetic rubber, bringing the rate down to $2\frac{1}{2}$ p.c. On rubber shoes and boots and on rubber manufactures including tires and tubes, the reductions are smaller. Lower duties on watches and cameras will also assist the consumer. Duties have also been reduced or eliminated on a number of miscellaneous products.

Impact on Imports.—Picking up the thread of the earlier argument about the possibility of expansion of Canadian exports as a result of the Kennedy Round, the implications of the reductions offered by Canada in import duties may now be considered. Although it is true that the level of protection to certain industries would be reduced, it is equally true that the cuts would result in imported materials being available at cheaper prices. This would help reduce costs where imported components are used in the production of goods. On the other hand, it will expose Canadian industry to increased foreign competition in the domestic market and could in some instances require it to reorganize production toward greater specialization, longer production runs and other economies of scale made possible by an expanding world market. Again, to the extent lower costs in imported materials are passed along, reduced prices will tend to increase domestic demand for the products of industry. Thus, both producers and consumers could in the long run gain from the lowering of duties.

It is true, of course, that the short-run effects of a reduction in duties are clearly different from the long-run effects. In the short run, a reduction may force an industry into losses and result in some unemployment. But, in the case of Canada at least, there appears to be little danger of any industry being wiped out, although some marginal units within an industry may be eliminated, permitting the re-allocation of resources to more productive uses. Thus, in the long run, intensified foreign competition could require progressive revisions in Canadian industry practices which would far outweigh the relatively minor adverse effects in the short run.

Export Potential.—The concessions that can accrue to Canada's export trade from the tariff reductions agreed to will apply to all most-favoured-nation countries, including some that are not party to the GATT. It follows that international competition for world markets will become more keen and every country will make vigorous efforts to take advantage of the Kennedy Round results.

With tariffs reduced on \$3,000,000,000 (almost a third) of Canadian exports, it is obvious that larger markets will now open up for Canadian industry. Almost \$2,000,000,000 worth of these exports go to the United States market and over half of this trade will benefit from a 50-p.c. reduction in rates. This will inevitably further increase trade with the United States, intensifying the existing trend of expanding trade to the south in a market itself ten times the size of the Canadian domestic market. Increased competition in the British market and the effect of reduced margins of preference in Britain will accentuate this trend. In addition, the Kennedy Round will open up, at least to a limited extent, the hitherto restricted EEC market. Gains can be expected also in the Japanese market and in that of the EFTA countries. Canadian exports in general have shown a highly encouraging degree of buoyancy, particularly in the 1960s, and have in recent years grown at a rate faster than that of world trade as a whole. If anything, reduced tariffs should accelerate this trend.

Conclusion

As already remarked, these gains should materialize if certain conditions obtain—important conditions on which could depend to a significant degree the success or failure

of the expected growth of Canadian exports. International competition for exports will be further intensified as a result of the Kennedy Round. It will be advantageous for Canadian industry to reorganize production to enable it to become more competitive. Some adjustment problems undoubtedly will have to be faced in the transitional phase but they should be taken care of by the Adjustment Assistance Programme* recently announced by the Prime Minister.

Canadian costs have been rising faster than those in the United States and some other countries, with rising wages an important factor. Current demands for wage increases and other benefits could push costs even higher. The gains from the Kennedy Round, therefore, will be eroded unless Canadian industry is able to increase its competitive strength through improvements in productivity. This is the best means of steadily expanding Canada's export markets and ensuring a rising standard of living for the Canadian people in whose economy foreign trade plays such a vital role. It is in this sense that the Kennedy Round is both an opportunity and a challenge for Canadian industry.

PART II.—FOREIGN TRADE STATISTICS†

Section 1.—Explanatory Notes on Canadian Trade Statistics

Sources.—Canadian foreign trade statistics are compiled from information recorded on customs documents received by the Dominion Bureau of Statistics from the various customs ports in Canada with the following exceptions: *electricity* exports are based on reports received from the National Energy Board and imports are based on reports received from public utility companies; and *crude petroleum exported by pipeline*, statistics for which are reported directly to the Bureau by the pipeline companies. Record is kept of value and, whenever possible, of quantity. In considering trade figures, it should be noted that the statistics do not necessarily reflect the financial transactions relating to the movement of goods since the method and time of payment are affected by many factors.

Coverage.—*Domestic exports or exports of Canadian produce* include exports of goods wholly produced in Canada together with exports of previously imported goods that have been changed in form by further processing in Canada. *Re-exports or exports of foreign produce* include previously imported goods that are exported from Canada in the same form as when imported. From January 1964, re-exports have also included exports from customs warehouses.

Imports, as from Jan. 1, 1964, include all goods cleared by customs immediately on arrival in Canada, plus goods entered into customs warehouses rather than cleared on arrival. For 1963 and earlier years, imports included goods cleared immediately on arrival plus goods cleared for consumption out of customs warehouses. The two types of record eventually cover the same totals, except for a small amount of goods entered into customs warehouses and then re-exported, but there may be an important difference in the time at which warehoused goods are recorded as imports; some shipments entering customs warehouses remain there for several months before clearance.

The most important exclusions from export totals are: current coin, gold, goods shipped to Canadian Armed Forces or diplomats stationed abroad, goods financed under the Defence Appropriation Act and shipped to other NATO countries, temporary exports for exhibition or competition, fuel and stores sold to foreign vessels and aircraft in Canada,

* This program seeks to provide suitable financial and technical support to firms and industries that require such support as the result of the problems created by the Kennedy Round and in order to increase their competitive strength in the world export markets.

† Based on statistical reports published by the External Trade Division, Dominion Bureau of Statistics.

settlers' effects, private donations and gifts, and identifiable tourist purchases—generally, all temporary exports and goods merely moving in transit through Canadian territory.

The most important exclusions from import totals are: current coin, gold, goods for use of the United States Armed Forces stationed at treaty bases in Canada, Canadian-owned military equipment returned to Canada, ships imported for use in foreign trade and ships of British construction and registry imported for use in the coasting trade, temporary imports for exhibition or competition, fuel and stores purchased by Canadian vessels and aircraft abroad, settlers' private donations and gifts, tourist purchases exempt from duty, and goods imported for foreign armed forces or diplomats stationed in Canada—generally, all temporary imports and goods merely moving in transit through Canadian territory.

Beginning Jan. 1, 1964, Canada's trade statistics are compiled on a "General Trade" basis instead of on the "Special Trade" basis used previously. The main difference for figures recorded on the General Trade basis is that imports are entered as such whether the goods are cleared through customs for immediate domestic use or stored in a customs warehouse. Domestic exports remain the same on both bases but re-exports, after Jan. 1, 1964, include exports from customs warehouses which were previously excluded. Over a period of years, the totals of Canadian exports or imports would be almost the same on either basis but considerable differences might appear in individual years because of time of clearance and extent of business activity.

From Jan. 1, 1960, a new category was established in both export and import statistics entitled "Special Transactions—Non-trade". This category includes certain commodity movements which either have no international financial implications or, for various reasons, are better considered separately from merchandise trade in economic analysis. The value of transactions of these types is now excluded entirely from published totals of Canadian merchandise trade and does not appear in this volume, but statistics for the classes of this category are contained in the regular monthly export and import reports.

Beginning with statistics for January 1961, a new export commodity classification was used, based on the Standard Commodity Classification developed by the DBS as a tool for integrating statistical series derived from different sources. Whereas the classification previously used classified commodities primarily according to the material of which they were chiefly composed, the new classification places commodities in sections mainly according to stage of processing and purpose, as follows: Live Animals; Food, Feed, Beverages and Tobacco; Crude Materials, Inedible; Fabricated Materials, Inedible; End Products, Inedible; and Special Transactions—Trade.

As from Jan. 1, 1964, a new commodity classification was also introduced for import statistics, based on concepts similar to those embodied in the export classification, so that there is now a closer approach to comparability between the two sets of statistics. As part of the change to the new classifications, the commodity detail shown in trade returns has been modernized by eliminating statistics on some commodities of minor significance and instituting new classes for many commodities of greater importance. The grouping system employed in the new classification also makes easier the identification of other commodities which may merit separate specification. For most of the commodities of greatest importance in Canadian exports, the classes of the new export commodity classification are substantially identical with those of its predecessor. The import classification is more extensive than the export classification and in its new form gives an up-to-date and comprehensive coverage of those commodities which constitute the bulk of Canada's import trade.

Valuation.—Export entries define the value of exports as the "actual amount received or to be received in terms of Canadian dollars, exclusive of all charges" (freight, insurance, handling, etc.). This definition would give values f.o.b. point of consignment for export

but in practice it is not always followed. For example, in recent years a significant but indeterminate proportion of exports has been reported in United States dollars, resulting in some overstatement of the value of exports for the period prior to June 1961 and some understatement of their value in subsequent years.

The value of goods imported is usually the value as determined for customs duty. The Canadian Customs Act generally requires the valuation of goods f.o.b. point of shipment in the country of export but, at least in recent years, importers have often reported c.i.f. value for free goods or goods subject to specific rates of duty. An effort is made to ensure that f.o.b. values are consistently used in import statistics in the following cases: goods subject to dumping duty (from January 1959); raw cotton and crude petroleum (from January 1962, retroactive to January 1960); raw sugar (from January 1963, retroactive to January 1961); and all shipments individually valued at \$100,000 or more (from January 1964). Only about one fifth of the value of imports is covered by these specific checks.

Country Classification.—Trade is credited to countries on the basis of consignment. For exports from Canada, the country of consignment is that country to which goods are, at the time of export, intended to pass without interruption of transit except in the course of transfer from one means of conveyance to another. For imports into Canada, the country of consignment is the country from which the goods came without interruption of transit except in the course of transfer from one means of conveyance to another. This is not necessarily the country of actual origin, since goods produced in one country may be imported by a firm in another country and re-sold to Canada; in such cases the second country is the country of consignment to which the goods are credited. There is one exception to this rule; an attempt is made to classify by country of origin goods produced in South America, Central America, Bermuda and the Antilles and consigned to Canada from the United States. The effect of this procedure is to reduce slightly the imports credited to the United States and to increase those credited to South and Central American countries.

The country sub-totals include trade with Commonwealth and other countries entitled to Preferential rates of duty (the Republic of Ireland and the Republic of South Africa).

Discrepancies in Trade Statistics Between Canada and Other Countries.—Canada's statistics of exports are rarely in exact agreement with the import statistics of its customers and parallel differences occur with Canadian imports. Major factors contributing to these discrepancies include:—

- (1) Differences in the system of valuation used by Canada and those of other countries, especially with respect to the treatment of transportation charges.
- (2) Differences in the statistical treatment of special categories of trade, such as armaments and military supplies, government-financed gift or mutual aid shipments, postal and express shipments, or warehouse trade.
- (3) Differing definitions of territorial areas.
- (4) Differing systems of crediting trade by countries, notably the consignment system used by Canada and the actual origin or ultimate destination system in use by some other countries.
- (5) Differences in the time at which trade is recorded in the statistics of partner countries caused by the time required for goods to move from one country to another.

Section 2.—Total Foreign Trade

In considering the figures in Sections 2 to 5, reference should be made to the explanatory notes on trade in Section 1. Exports and imports of gold are excluded from all tables.

1.—Value of Total Foreign Trade of Canada (excluding Gold), 1951-66

NOTE.—Figures have been revised to cover the adjustment for "Special Transactions—Non-trade"; see p. 955.

Year	Exports			Imports			Balance of Trade: Excess of Exports (+) Imports (—)
	Domestic	Re-exports	Total	Dutiable	Free	Total	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1951.....	3,897,082	48,847	3,945,929	2,174,304	1,830,635	4,004,939	— 59,011
1952.....	4,282,361	54,814	4,337,175	2,162,882	1,753,535	3,916,418	+ 420,757
1953.....	4,097,111	55,158	4,152,269	2,417,960	1,829,848	4,247,808	— 95,539
1954.....	3,860,217	65,604	3,925,821	2,311,568	1,655,833	3,967,401	— 41,580
1955.....	4,258,328	69,448	4,327,776	2,638,037	1,929,718	4,567,754	— 239,978
1956.....	4,760,442	73,335	4,833,777	3,292,516	2,254,435	5,546,951	— 713,175
1957.....	4,788,880	95,261	4,884,141	3,223,197	2,250,149	5,473,346	— 589,205
1958.....	4,791,436	102,907	4,894,343	2,952,707	2,097,785	5,050,492	— 156,150
1959.....	5,021,672	118,628	5,140,300	3,143,065	2,365,856	5,508,921	— 368,621
1960.....	5,255,575	131,217	5,386,792	3,048,583	2,434,112	5,482,695	— 95,903
1961.....	5,754,986	140,229	5,895,215	3,115,408	2,653,170	5,768,578	+ 126,637
1962.....	6,178,523	169,190	6,347,713	3,480,282	2,777,494	6,257,776	+ 89,937
1963.....	6,798,529	181,613	6,980,142	3,542,585	3,015,623	6,558,209	+ 421,933
1964.....	8,094,219	209,186	8,303,405	4,034,903	3,452,804	7,487,707	+ 815,698
1965.....	8,525,078	241,599	8,766,677	4,366,849	4,266,300	8,633,148	+ 133,529
1966.....	10,070,627	254,693	10,325,320	4,831,709	5,034,730	9,866,439	+ 458,881

Treatment of Gold in Trade Statistics.—The general use of gold as a money metal gives it peculiar attributes that distinguish it from other commodities in trade. In particular, international movements of gold are determined largely by monetary factors rather than by ordinary trade or commercial considerations. Gold is generally acceptable; it does not have to surmount tariff barriers and is normally assured a market at a fixed minimum price. Also, gold may be bought or sold internationally without any physical movements of the metal, such transactions being recognized by simply setting aside or 'ear-marking' the metal in the vaults of some central bank.

For these reasons, movements of gold in a primary or semi-fabricated state are excluded from the totals of Canada's commodity trade. However, since gold is produced in Canada primarily as an export commodity, a series showing new gold production available for export is published as a supplement to the trade statistics. Because this series is calculated on a production basis, a division of the figures into transactions with individual countries is not possible.

2.—New Gold Production Available for Export, by Month, 1959-66

(Millions of dollars)

Month	1959	1960	1961	1962	1963	1964	1965	1966
January.....	11.7	14.5	14.1	8.4	13.1	12.8	14.8	9.5
February.....	16.1	15.0	14.2	18.1	13.1	10.9	7.7	11.0
March.....	9.8	14.3	12.8	14.5	14.8	9.6	12.2	13.7
April.....	14.1	9.4	13.3	9.2	11.5	15.4	8.5	8.5
May.....	12.9	12.4	15.2	17.6	12.4	10.6	13.9	10.2
June.....	13.8	13.3	13.9	12.8	13.9	14.7	11.9	10.2
July.....	11.4	11.7	12.7	10.5	12.3	8.9	10.4	9.7
August.....	11.1	14.4	14.8	16.2	11.5	14.0	12.1	9.9
September.....	10.3	15.7	13.1	11.6	12.3	12.6	11.9	10.0
October.....	9.4	12.3	11.1	12.6	15.0	10.5	9.8	10.4
November.....	12.6	11.7	16.3	14.1	12.6	10.5	12.0	11.0
December.....	15.1	16.8	10.7	9.6	11.4	14.3	12.5	10.4
Totals.....	148.3	161.5	162.2	155.2	153.7	144.8	137.9	124.5

Section 3.—Trade by Geographic Area

The tables in this Section provide information about Canada's total foreign trade by geographic region and by country.

3.—Trade of Canada with Commonwealth and Preferential Countries, and Other Countries, 1947-66

Item and Year	Britain		Other Commonwealth and Preferential Countries		United States ¹		Other Countries	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
	\$'000		\$'000		\$'000		\$'000	
Domestic Exports								
1947.....	746,718	27.1	405,485	14.8	1,030,101	37.4	570,495	20.7
1948.....	683,249	22.4	337,880	11.1	1,498,552	49.1	532,409	17.4
1949.....	702,074	23.6	309,214	10.4	1,504,768	50.6	458,913	15.4
1950.....	467,896	15.1	197,654	6.4	2,020,703	65.1	417,763	13.4
1951.....	630,124	16.2	260,889	6.7	2,296,235	58.9	709,834	18.2
1952.....	744,461	17.4	283,809	6.6	2,302,673	53.8	951,418	22.2
1953.....	662,785	16.2	244,745	6.0	2,413,318	58.9	776,263	18.9
1954.....	651,033	16.9	202,561	5.2	2,308,670	59.8	697,953	18.1
1955.....	767,642	18.0	248,624	5.9	2,547,636	59.8	694,426	16.3
1956.....	811,113	17.0	252,117	5.3	2,803,085	58.9	894,127	18.8
1957.....	720,898	15.1	240,016	5.0	2,846,646	59.4	981,320	20.5
1958.....	771,576	16.1	290,125	6.1	2,808,067	58.6	921,667	19.2
1959.....	785,302	15.7	281,462	5.6	3,083,151	61.4	871,257	17.3
1960.....	915,290	17.4	333,815	6.4	2,932,171	55.8	1,074,300	20.4
1961.....	909,344	15.8	328,854	5.7	3,107,176	54.0	1,409,612	24.5
1962.....	909,041	14.7	331,004	5.4	3,608,439	58.4	1,330,040	21.5
1963.....	1,006,838	14.8	391,526	5.8	3,766,380	55.4	1,633,785	24.0
1964.....	1,199,779	14.8	493,871	6.1	4,271,059	52.8	2,129,510	26.3
1965.....	1,174,309	13.8	502,330	5.9	4,840,456	56.8	2,007,984	23.6
1966.....	1,122,574	11.1	547,420	5.4	6,027,722	59.9	2,372,911	23.6
Imports								
1947.....	184,207	7.2	164,553	6.5	1,951,606	76.8	242,293	9.5
1948.....	293,535	11.2	203,932	7.8	1,798,507	68.7	322,302	12.3
1949.....	302,420	11.1	186,306	6.9	1,915,227	70.6	310,072	11.4
1950.....	400,811	12.8	241,124	7.7	2,089,531	66.9	393,765	12.6
1951.....	415,194	10.4	306,287	7.6	2,752,087	68.7	531,371	13.3
1952.....	351,541	9.0	184,345	4.7	2,887,628	73.7	492,904	12.6
1953.....	445,441	10.5	170,224	4.0	3,115,301	73.3	516,842	12.2
1954.....	382,229	9.6	181,884	4.6	2,871,279	72.4	532,010	13.4
1955.....	393,117	8.6	209,265	4.6	3,331,143	72.9	634,229	13.9
1956.....	476,371	8.6	220,808	4.0	4,031,394	72.7	818,378	14.7
1957.....	507,319	9.3	239,054	4.4	3,887,391	71.0	839,582	15.3
1958.....	518,505	10.3	210,016	4.2	3,460,147	68.5	861,824	17.0
1959.....	588,573	10.7	241,241	4.4	3,709,065	67.3	970,042	17.6
1960.....	588,932	10.8	281,167	5.1	3,686,625	67.2	925,971	16.9
1961.....	618,221	10.7	292,155	5.1	3,863,968	67.0	994,233	17.2
1962.....	563,062	9.0	318,501	5.1	4,299,539	68.7	1,076,673	17.2
1963.....	526,800	8.0	400,820	6.1	4,444,556	67.8	1,186,033	18.1
1964.....	573,995	7.7	405,850	5.4	5,164,285	69.0	1,343,577	17.9
1965.....	619,058	7.2	372,780	4.3	6,044,831	70.0	1,596,480	18.5
1966.....	644,741	6.5	416,293	4.2	7,135,611	72.3	1,669,794	16.9

¹ Includes Alaska and Hawaii.

**4.—Trade of Canada by Leading Countries, 1966, with Comparable Figures for
1964 and 1965**

Rank in—			Item and Country	1964	1965	1966
1964	1965	1966				
				\$'000	\$'000	\$'000
Domestic Exports						
1	1	1	United States.....	4,271,059	4,840,456	6,027,722
2	2	2	Britain.....	1,199,779	1,174,809	1,122,574
3	3	3	Japan.....	330,234	316,187	393,892
4	4	4	Union of Soviet Socialist Republics.....	315,943	197,362	320,605
7	9	5	China, Communist.....	136,263	105,131	184,879
5	5	6	Germany, Federal Republic.....	211,360	189,493	176,800
8	8	7	Netherlands.....	101,582	127,766	143,113
9	7	8	Belgium and Luxembourg.....	100,535	128,011	117,505
6	6	9	Australia.....	145,812	140,372	117,359
17	10	10	Italy.....	62,236	93,223	114,787
15	15	11	India.....	64,042	58,453	107,662
12	12	12	Norway.....	67,582	82,456	107,014
10	11	13	France.....	79,433	87,273	84,541
14	14	14	Venezuela.....	64,075	73,045	75,958
11	13	15	Republic of South Africa.....	69,166	76,226	74,393
18	16	16	Cuba.....	60,930	52,594	61,436
13	17	17	Mexico.....	65,151	51,006	52,145
19	18	18	New Zealand.....	33,714	36,845	41,750
23	20	19	Argentina.....	26,889	32,720	39,529
16	21	20	Poland.....	62,653	31,565	37,404
26	19	21	Spain.....	21,235	33,825	36,900
20	23	22	Sweden.....	29,922	28,980	36,574
30	25	23	Peru.....	10,749	21,864	36,355
21	22	24	Jamaica.....	28,942	30,280	33,500
22	24	25	Switzerland.....	28,502	27,095	31,010
27	26	26	Pakistan.....	20,031	21,643	25,671
25	30	27	Colombia.....	21,252	17,362	25,397
28	27	28	Trinidad.....	17,791	21,532	23,337
24	29	29	Brazil.....	22,985	17,509	21,157
29	28	30	Puerto Rico.....	15,408	17,693	19,560
Totals, 30 Leading Countries.....				7,685,255	8,132,276	9,690,529
Grand Totals, Domestic Exports.....				8,094,219	8,525,078	10,070,627
Imports						
1	1	1	United States.....	5,164,285	6,044,831	7,135,611
2	2	2	Britain.....	573,995	619,058	644,741
4	4	3	Japan.....	174,388	230,144	253,051
5	5	4	Germany, Federal Republic.....	170,392	209,517	235,207
3	3	5	Venezuela.....	270,621	254,670	215,059
6	6	6	France.....	68,687	96,103	106,651
7	7	7	Italy.....	67,462	80,279	86,718
13	10	8	Sweden.....	38,794	55,568	72,541
9	8	9	Belgium and Luxembourg.....	59,198	72,027	61,555
11	9	10	Netherlands.....	39,933	56,274	60,489
8	11	11	Australia.....	59,827	47,372	59,573
14	12	12	Switzerland.....	36,932	43,986	50,279

4.—Trade of Canada by Leading Countries, 1966, with Comparable Figures for 1964 and 1965—concluded

Rank in—			Item and Country	1964	1965	1966
1964	1965	1966				
				\$'000	\$'000	\$'000
			Imports—concluded			
18	16	13	Malaysia.....	34,566	40,272	41,453
15	13	14	India.....	36,121	43,424	40,093
29	30	15	Nigeria.....	11,264	11,252	39,490
22	21	16	Hong Kong.....	26,321	31,043	38,911
17	14	17	Netherlands Antilles.....	34,885	43,341	38,511
10	17	18	Jamaica.....	47,853	36,000	37,281
12	18	19	Brazil.....	39,533	35,573	35,777
19	20	20	Iran.....	31,085	31,765	35,469
21	19	21	Norway.....	27,335	33,641	33,774
23	22	22	Mexico.....	23,186	27,247	33,539
25	15	23	Saudi Arabia.....	18,553	42,114	32,553
16	24	24	British Guiana (Guyana).....	35,653	22,549	29,126
20	23	25	Republic of South Africa.....	28,777	27,113	27,641
26	25	26	Denmark.....	15,749	20,071	24,181
28	28	27	Czechoslovakia.....	12,847	15,965	21,709
30	29	28	China, Communist.....	9,420	14,445	20,594
27	26	29	Panama.....	15,095	19,414	16,066
24	27	30	Trinidad and Tobago.....	20,738	16,670	16,050
			Totals, 30 Leading Countries.....	7,193,500	8,321,728	9,543,693
			Grand Totals, Imports.....	7,437,707	8,633,148	9,866,439

5.—Value of Domestic Exports, by Geographic Region and Country, 1959-66

Region and Country	1959	1960	1961	1962	1963	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Western Europe—								
Britain.....	785,802	915,290	909,344	909,041	1,006,838	1,199,779	1,174,309	1,122,574
Gibraltar.....	182	200	291	149	185	110	60	113
Ireland.....	8,156	7,706	11,588	10,329	10,461	15,072	16,664	14,944
Malta and Gozo.....	2,142	2,299	2,924	2,217	2,313	2,721	1,964	1,643
Austria.....	8,260	7,745	7,877	7,316	6,826	7,475	9,857	11,600
Belgium and Luxembourg.....	56,127	69,131	76,055	68,169	76,493	100,535	128,011	117,505
Denmark.....	5,449	4,978	4,813	6,087	6,811	7,484	9,176	10,802
Finland.....	2,739	4,355	6,085	5,240	7,277	4,458	4,792	7,078
France.....	43,157	72,907	71,923	57,561	63,428	79,433	87,273	84,541
Germany, Federal Republic.....	129,345	165,597	188,694	177,688	170,969	211,360	189,493	176,800
Greece.....	3,798	5,546	4,995	9,235	7,429	8,013	8,231	9,647
Iceland.....	279	243	219	287	347	10,459	10,228	6,492
Italy.....	31,717	68,393	67,688	74,521	76,761	62,236	93,223	114,787
Netherlands.....	53,849	62,554	61,297	76,940	87,009	101,532	127,766	143,113
Norway.....	62,308	61,595	69,744	69,054	73,398	67,582	82,456	107,014
Portugal.....	3,251	3,336	4,718	2,563	5,859	6,264	5,260	5,228
Spain.....	6,168	10,243	12,803	15,416	20,500	21,235	33,825	36,900
Sweden.....	14,879	20,906	17,654	18,230	20,926	29,922	28,980	36,574
Switzerland.....	25,728	26,404	22,422	23,891	27,247	28,502	27,095	31,010
Totals, Commonwealth and Preferential Countries.....	796,281	925,496	924,147	921,736	1,019,797	1,217,683	1,192,996	1,139,278
Totals, Other Countries.....	447,055	583,932	616,986	612,198	651,279	746,540	845,666	899,092
Totals, Western Europe....	1,243,336	1,509,428	1,541,133	1,533,934	1,671,076	1,964,223	2,038,663	2,038,369

5.—Value of Domestic Exports, by Geographic Region and Country, 1959-66—continued

Region and Country	1959	1960	1961	1962	1963	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Eastern Europe—								
Albania.....	1	1	5,845	3,053	2	10,873	9,471	7,562
Bulgaria.....	200	491	277	388	28	19,239	7,364	7,812
Czechoslovakia.....	4,937	6,767	32,654	3,522	13,289	54,230	34,762	5,080
Germany, Eastern.....	1	994	17,972	148	1,262	11,739	15,216	12,311
Hungary.....	1,115	931	564	350	374	1,910	8,352	3,293
Poland.....	15,631	16,665	36,819	37,391	27,200	62,653	31,565	37,404
Romania.....	1,157	1,326	1,037	514	1,275	540	641	685
Union of Soviet Socialist Republics.....	12,638	8,233	24,276	3,297	150,123	315,943	197,362	320,605
Yugoslavia.....	2,577	3,249	2,135	999	17,519	5,443	8,561	3,664
Totals, Eastern Europe.....	38,255	38,658	121,579	49,662	211,071	482,568	313,294	398,415
Middle East—								
Aden.....	2	2	2	2	2	2	193	218
Bahrain.....	3	112	111	210	162	151	160	331
Cyprus.....	4	609	70	298	513	193	261	328
Qatar.....	3	55	72	213	246	279	548	409
Trucial States.....	2	2	2	2	2	2	66	152
British Middle East, <i>n.e.s.</i>		61	165	159	127	138	5	5
Ethiopia.....	72	220	120	105	139	236	581	842
Iran.....	2,242	2,499	4,457	5,293	3,568	3,372	3,282	3,795
Iraq.....	4,311	2,425	1,374	1,343	3,376	957	734	887
Israel.....	4,557	6,184	8,747	6,232	8,163	9,109	6,261	10,703
Jordan.....	72	131	308	145	244	245	306	429
Kuwait.....	3	1,091 ^a	941 ^a	1,040 ^a	2,748	934	3,582	3,994
Lebanon.....	3,182	3,443	2,484	2,244	2,365	2,516	2,419	3,134
Libya.....	382	333	151	376	690	907	660	635
Saudi Arabia.....	2,877	2,905	2,697	3,257	3,548	3,133	5,343	5,034
Somalia.....	193	2	12	3	22	1	26	8
Sudan.....	367	335	333	180	173	113	120	363
Syria.....	1,067	674	364	561	713	387	665	555
Turkey.....	693	2,014	1,943	978	2,378	1,581	3,468	4,781
United Arab Republic—Egypt.....	1,601	2,010	3,025	2,230	2,536	3,978	4,772	5,330
Totals, Commonwealth and Preferential Countries.....	7	1,927^a	1,360^a	1,920^a	1,048	760	1,227	1,438
Totals, Other Countries.....	21,617	23,176	26,013	22,945	30,662	27,468	32,218	40,551
Totals, Middle East.....	21,624	25,103	27,373	24,866	31,710	28,229	33,446	41,989
Other Africa—								
Gambia.....	8	8	8	8	212	71	162	163
Ghana.....	3,784	3,879	7,798	8,400	5,451	7,333	5,723	3,994
Kenya.....	806	936	586	680	1,003	911	4,605	1,653
Malawi.....	9	9	9	9	9	9	90	143
Mauritius and Dependencies.....	68	77	95	94	218	94	236	135
Nigeria.....	938	2,305	3,272	6,997	3,234	6,292	6,934	10,108
Northern Rhodesia.....	10	10	10	10	826	1,031	11	11
Nyasaland.....	10	10	10	10	99	156	12	12
Republic of South Africa.....	51,243	52,655	37,819	37,525	60,299	69,166	76,226	74,393
Rhodesia.....	13	13	13	13	13	13	3,841	603
Rhodesia and Nyasaland.....	2,851	4,088	3,396	3,367	14	14	15	15
Sierra Leone.....	725	641	810	1,200	1,298	1,329	1,134	1,743
Southern Rhodesia.....	10	10	10	10	3,637	3,150	16	16
Tanganyika.....	17	143	173	228	377	192	18	18
Tanzania.....	19	19	19	19	19	19	316	2,039
Uganda.....	17	86	66	137	148	259	1,167	521
Zambia.....	20	20	20	20	20	20	4,279	1,384
British Africa, <i>n.e.s.</i>	57	200	156	161	52	31	35	13
Algeria.....	21	4,662	6,064	2,202	3,970	1,212	228	965
Angola.....	22	67	160	44	104	75	228	315
Cameroon.....	21	21	21	92	24	39	157	199
Congo.....	2,689	1,310	980	889	921	1,127	872	956
French Equatorial Africa.....	21	34	57	5	21	21	21	21

¹ Less than \$500. ² Included with British Middle East, *n.e.s.* ³ Included with Saudi Arabia. ⁴ Included with Malta and Gozo. ⁵ See Aden and Trucial States. ⁶ Included with "Totals, Commonwealth and Preferential Countries". ⁷ Includes Kuwait. ⁸ Included with British Africa, *n.e.s.* ⁹ Formerly Nyasaland. ¹⁰ Included with Rhodesia and Nyasaland. ¹¹ See Zambia. ¹² See Malawi. ¹³ Formerly Southern Rhodesia. ¹⁴ See Northern Rhodesia, Southern Rhodesia and Nyasaland. ¹⁵ See Zambia, Rhodesia and Malawi. ¹⁶ See Rhodesia. ¹⁷ Included with Kenya. ¹⁸ See Tanzania. ¹⁹ Formerly Tanganyika. ²⁰ Formerly Northern Rhodesia. ²¹ Included with French Africa, *n.e.s.* ²² Included with Portuguese Africa, *n.e.s.*

5.—Value of Domestic Exports, by Geographic Region and Country, 1959-66—continued

Region and Country	1959	1960	1961	1962	1963	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Other Africa—concluded								
French West Africa.....	1	135	73	775	1	1	1	1
French Africa, <i>n.e.s.</i>	2,765	10	26	9	92	214	226	461
Gabon.....	1	1	19	61	15	146	31	294
Guinea.....	1	9	140	131	2	4	81	728
Ivory Coast.....	1	1	26	10	18	66	49	88
Liberia.....	217	644	501	816	1,100	5,518	1,908	1,344
Malagasy.....	1	1	1	1	1	1	108	45
Mauritania.....	1	3	3	3	258	169	657	123
Morocco.....	416	627	476	459	963	667	391	296
Mozambique.....	2,012	3,145	2,023	2,504	2,646	1,806	3,282	1,279
Portuguese Africa, <i>n.e.s.</i>	305	279	241	197	283	164	367	171
Spanish Africa.....	2	28	40	118	27	229	112	85
Togo.....	1	1	1	105	350	443	317	585
Tunisia.....	1	170	561	30	1,970	327	86	196
Totals, Commonwealth and Preferential Countries.....	60,473	65,010	54,172	58,790	76,853	90,012	104,748	96,894
Totals, Other Countries.....	8,406	11,121	11,385	8,449	12,738	12,207	9,101	8,131
Totals, Other Africa.....	68,878	76,130	65,558	67,239	89,591	102,219	113,849	105,024
Other Asia—								
Ceylon.....	4,931	2,479	3,799	2,007	2,636	4,724	2,199	5,250
Hong Kong.....	11,192	21,665	19,604	14,283	17,490	22,278	16,734	15,385
India.....	53,654	36,814	42,885	29,633	53,900	64,042	58,453	107,662
Malaysia.....	3,258	4,660	5,696	5,453	6,999	8,370	9,253	15,376
Pakistan.....	17,317	11,942	15,315	10,755	19,152	20,031	21,643	25,071
British East Indies, <i>n.e.s.</i>	95	360	457	435	4	4	4	4
Afghanistan.....	67	159	55	25	18	23	23	18
Burma.....	817	806	1,405	1,303	703	736	671	1,195
Cambodia and Laos.....	5	148	114	2	17	9	128	98
China, Communist.....	1,720	8,737	125,448	147,438	104,738	136,263	105,131	184,879
Indonesia.....	1,760	2,110	2,463	2,027	1,449	703	1,636	347
Japan.....	139,724	178,859	231,574	214,535	296,010	330,234	316,187	393,892
Korea.....	6,000	3,916	2,067	1,492	3,815	1,096	823	15,652
Philippines.....	14,863	14,809	15,645	18,545	21,284	27,809	26,354	18,683
Portuguese Asia.....	358	93	59	22	38	41	48	60
Portuguese India.....	6	385	445	7	7	7	7	7
Taiwan (Republic of China).....	1,692	2,886	2,219	4,387	3,759	6,178	6,577	8,410
Thailand.....	1,937	2,710	2,921	3,472	2,823	3,803	5,621	6,742
Viet-Nam.....	385	540	206	298	250	726	804	2,589
Totals, Commonwealth and Preferential Countries.....	90,447	77,920	87,755	62,566	100,176	119,445	108,282	169,344
Totals, Other Countries.....	169,324	216,159	384,622	393,546	434,903	507,623	464,002	632,565
Totals, Other Asia.....	259,771	294,079	472,376	456,112	535,079	627,068	572,284	801,909
Oceania—								
Australia.....	53,929	98,862	78,628	104,965	100,773	145,812	140,372	117,356
Fiji.....	727	808	607	705	759	891	1,115	828
New Zealand.....	13,306	23,858	31,125	26,784	30,549	33,714	36,845	41,755
British Oceania, <i>n.e.s.</i>	65	324	191	296	249	386	317	304
French Oceania.....	171	313	303	366	299	436	508	614
United States Oceania.....	167	640	1,293	3,084	3,693	1,261	828	740
Totals, Commonwealth and Preferential Countries.....	68,027	123,852	110,551	132,750	132,330	180,804	178,650	160,241
Totals, Other Countries.....	338	953	1,596	3,451	3,992	1,697	1,336	1,350
Totals, Oceania.....	68,365	124,805	112,147	136,201	136,322	182,501	179,986	161,591
South America—								
British Guiana.....	4,392	7,428	5,272	5,102	5,061	7,116	7,750	9,878
Falkland Islands.....	216	169	24	13	6	1	4	4
Argentina.....	7,002	19,364	30,893	22,546	36,992	26,889	32,720	39,529

¹ Included with French Africa, *n.e.s.*² Less than \$500.³ Included with French West Africa⁴ Included with Malaysia.⁵ Included with Viet-Nam.⁶ Included with Portuguese Asia.

cluded with India.

⁷ In

5.—Value of Domestic Exports, by Geographic Region and Country, 1959-66—concluded

Region and Country	1959	1960	1961	1962	1963	1964	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
South America—concluded								
Bolivia.....	324	323	353	363	628	985	1,687	2,126
Brazil.....	14,148	19,755	30,076	28,481	29,432	22,985	17,509	21,157
Chile.....	6,226	6,575	8,225	13,278	12,329	12,659	10,514	12,316
Colombia.....	17,668	16,590	19,525	19,887	23,348	21,252	17,362	25,397
Ecuador.....	3,864	3,913	3,922	3,777	3,913	5,719	4,672	3,028
French Guiana.....	2	2	15	5	2	4	54	18
Paraguay.....	114	120	69	41	211	485	177	129
Peru.....	11,632	8,891	8,188	8,140	11,641	10,749	21,864	36,355
Surinam.....	696	883	1,224	866	1,031	1,610	1,283	1,834
Uruguay.....	1,656	2,423	3,039	3,151	2,994	5,679	3,283	4,779
Venezuela.....	45,833	35,345	34,978	42,328	46,328	64,075	73,045	75,958
Totals, Commonwealth and Preferential Countries.....	4,608	7,597	5,296	5,115	5,067	7,117	7,754	9,887
Totals, Other Countries.....	109,166	114,184	140,507	142,863	168,848	173,090	184,168	222,626
Totals, South America.....	113,773	121,780	145,803	147,978	173,915	180,207	191,922	232,512
Central America and Antilles—								
Bahamas.....	3,083	3,357	3,798	5,010	6,133	8,876	9,257	10,847
Barbados.....	4,103	3,775	3,977	4,481	5,469	6,922	6,826	8,112
Bermuda.....	4,334	4,016	4,239	4,492	5,713	6,339	5,984	7,442
British Honduras.....	289	409	600	835	698	973	1,065	921
Jamaica.....	18,538	18,056	19,077	21,891	22,271	28,942	30,280	33,500
Leeward and Windward Islands..	4,437	4,720	4,828	5,642	6,596	7,986	8,037	8,753
Trinidad and Tobago.....	12,636	12,971	18,398	14,817	16,213	17,791	21,532	23,337
Costa Rica.....	2,633	2,983	2,931	3,473	3,651	3,841	5,397	5,130
Cuba.....	15,222	13,038	31,104	10,878	16,433	60,930	52,594	61,436
Dominican Republic.....	5,137	5,062	4,469	8,488	9,085	9,070	6,152	6,824
El Salvador.....	2,567	2,390	2,436	3,354	3,134	4,416	4,051	3,294
French West Indies.....	19	43	75	53	66	135	144	157
Guatemala.....	2,627	2,106	2,188	2,705	3,107	3,433	4,001	3,254
Haiti.....	1,319	1,529	1,543	1,277	1,525	1,485	1,302	1,228
Honduras.....	946	1,416	1,061	899	1,100	1,260	1,005	1,445
Mexico.....	27,633	38,023	38,529	41,267	55,572	65,151	51,006	52,145
Netherlands Antilles.....	1,193	1,131	1,239	1,793	2,406	2,355	3,004	3,008
Nicaragua.....	1,515	1,319	1,448	2,135	2,693	2,209	2,805	3,070
Panama.....	4,023	3,703	4,578	5,645	4,417	4,602	4,622	5,444
Puerto Rico.....	10,522	11,172	13,109	12,711	14,619	15,408	17,693	19,560
United States Virgin Islands.....	185	214	190	283	284	1,317	1,571	950
Totals, Commonwealth and Preferential Countries.....	47,421	47,304	54,917	57,167	63,093	77,829	82,981	92,913
Totals, Other Countries.....	75,540	84,127	104,900	94,961	118,092	175,612	155,348	166,944
Totals, Central America and Antilles.....	122,961	131,431	159,818	152,129	181,185	253,441	238,329	259,856
North America—								
Greenland.....	154	427	198	167	287	272	137	156
St. Pierre and Miquelon.....	1,403	1,563	1,825	1,799	1,913	2,431	2,713	3,079
United States ¹	3,083,151	2,932,171	3,107,176	3,608,439	3,766,380	4,271,059	4,840,456	6,027,722
Totals, North America.....	3,084,708	2,934,162	3,109,199	3,610,404	3,768,580	4,273,762	4,843,307	6,030,957
Grand Totals, Commonwealth and Preferential Countries..	1,067,263	1,249,104	1,238,198	1,240,045	1,398,364	1,693,650	1,676,638	1,669,994
Grand Totals, Other Countries	3,954,409	4,006,470	4,516,788	4,938,479	5,400,165	6,400,569	6,848,440	8,400,633
Grand Totals, All Countries..	5,021,672	5,255,575	5,754,986	6,178,523	6,798,529	8,094,219	8,525,078	10,070,627

¹ Includes Alaska and Hawaii.

6.—Value of Imports, by Geographic Region and Country, 1959-66

Region and Country	1959	1960	1961	1962	1963	1964	1965 [*]	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Western Europe—								
Britain.....	588,573	588,932	618,221	563,062	526,800	573,995	619,058	644,741
Gibraltar.....	¹	²	¹			¹³	²	¹
Ireland.....	2,001	2,098	3,806	4,826	5,320	5,624	6,861	6,512
Malta and Gozo.....	174	22	25	36	232	113	387	394
Austria.....	5,707	6,605	6,636	7,971	9,026	9,595	12,281	15,192
Belgium and Luxembourg.....	44,786	41,401	44,780	48,672	47,342	59,198	72,027	61,555
Denmark.....	9,227	9,962	11,650	13,278	13,209	15,749	20,071	24,181
Finland.....	875	1,053	1,215	1,939	2,520	3,177	2,762	3,533
France.....	56,940	50,121	54,280	56,160	58,170	68,687	96,103	106,651
Germany, Federal Republic.....	123,905	126,988	136,530	141,198	144,023	170,392	209,517	235,207
Greece.....	310	538	545	1,094	1,631	1,550	1,838	1,831
Iceland.....	40	15	707	1,183	696	2	659	509
Italy.....	37,656	42,843	49,140	51,859	55,303	67,462	80,279	86,718
Netherlands.....	29,154	31,456	33,493	37,049	36,736	39,933	56,274	60,489
Norway.....	4,063	4,248	8,965	16,109	23,492	27,335	33,641	33,774
Portugal.....	3,116	3,208	4,917	5,998	7,713	9,414	11,053	13,288
Spain.....	5,627	6,947	8,543	8,463	8,496	11,704	13,280	12,505
Sweden.....	18,077	20,409	24,221	25,873	33,410	38,794	55,568	72,541
Switzerland.....	24,514	24,343	26,102	28,040	32,469	36,932	43,986	50,279
Totals, Commonwealth and Preferential Countries.....	590,748	591,054	622,053	567,924	532,352	579,746	626,307	651,648
Totals, Other Countries.....	363,996	370,138	411,722	444,887	474,236	559,924	709,338	778,252
Totals, Western Europe...	954,744	961,191	1,033,775	1,012,811	1,006,588	1,139,670	1,335,646	1,429,900
Eastern Europe—								
Albania.....	—	¹	—	—	—	—	¹	—
Bulgaria.....	6	6	24	34	74	114	526	768
Czechoslovakia.....	6,440	6,654	8,405	9,033	9,204	12,847	15,965	21,709
Germany, Eastern.....	901	877	970	881	1,207	1,473	1,584	2,163
Hungary.....	237	338	393	417	557	761	1,608	3,309
Poland.....	1,643	1,871	3,194	4,792	6,788	9,280	11,815	13,757
Romania.....	35	84	261	61	124	82	238	569
Union of Soviet Socialist Republics.....	2,278	3,210	2,746	1,777	2,313	2,808	9,885	11,654
Yugoslavia.....	551	804	1,665	1,801	1,843	2,601	2,967	2,638
Totals, Eastern Europe...	12,090	13,844	17,659	18,795	22,109	29,966	44,588	56,566
Middle East—								
Aden.....	²	²	²	²	²	²	353	80
Bahrain.....	³	—	¹	—	¹	—	—	—
Cyprus.....	⁴	180	194	151	88	48	291	108
Qatar.....	³	8,434	8,724	6,273	8,678	2,285	2,732	—
Trucial States.....	²	²	²	²	²	²	1,741	2,984
British Middle East, <i>n.e.s.</i>	400	59	48	68	56	3,183	⁵	⁵
Ethiopia.....	44	43	4	5	21	141	66	63
Iran.....	11,948	30,740	21,622	31,736	42,799	31,085	31,765	35,469
Iraq.....	1,107	722	846	704	1,269	2,379	5,284	12,529
Israel.....	2,349	2,372	3,106	5,646	6,043	6,270	6,656	6,758
Jordan.....	¹	¹	³	¹	³	¹⁰	⁹	⁹
Kuwait.....	³	22,303 ⁶	20,225 ⁶	10,034 ⁶	5,169	11,219	11,505	6,157
Lebanon.....	—	33	23	58	65	81	50	1,040
Libya.....	¹	¹	¹	¹⁰	¹	—	¹	10,963
Saudi Arabia.....	70,725	37,402	41,393	40,551	50,290	18,553	42,114	32,553
Somalia.....	¹	—	¹	—	¹	¹	—	24
Sudan.....	438	83	76	105	148	113	138	93
Syria.....	183	127	263	455	362	492	515	380
Turkey.....	886	855	859	1,472	1,294	1,207	1,055	979
United Arab Republic—Egypt.....	200	846	474	301	224	125	221	661
Totals, Commonwealth and Preferential Countries.....	400	30,975 ⁷	29,192 ⁷	16,525 ⁷	8,823	5,516	5,118	3,171
Totals, Other Countries.....	87,887	73,224	68,668	81,044	107,688	71,675	99,379	107,676
Totals, Middle East.....	88,286	104,200	97,861	97,569	116,511	77,191	104,496	110,848

¹ Less than \$500. ² Included with British Middle East, *n.e.s.* ³ Included with Saudi Arabia. ⁴ Included with Malta and Gozo. ⁵ See Aden and Trucial States. ⁶ Included with "Totals, Commonwealth and Preferential Countries". ⁷ Includes Kuwait.

6.—Value of Imports, by Geographic Region and Country, 1959-66—continued

Region and Country	1959	1960	1961	1962	1963	1964	1965 [*]	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Other Africa—								
Ghana.....	4,103	3,127	4,691	7,036	6,533	7,961	10,158	10,824
Kenya.....	4,261	2,561	3,629	3,157	5,323	7,397	6,862	7,206
Malawi.....	¹	¹	¹	¹	¹	¹	391	583
Mauritius and Dependencies.....	7,584	2,100	5,600	5,215	8,606	13,394	6,456	5,131
Nigeria.....	3,084	4,358	3,504	5,726	7,924	11,264	11,252	39,490
Northern Rhodesia.....	²	²	²	²	1,306	37	³	³
Nyasaland.....	²	²	²	²	408	297	⁴	⁴
Republic of South Africa.....	6,564	11,482	12,202	16,952	31,548	28,777	27,113	27,641
Rhodesia.....	⁵	⁵	⁵	⁵	⁵	⁵	3,408	1,175
Rhodesia and Nyasaland.....	966	981	1,318	3,272	⁶	⁶	⁷	⁷
Sierra Leone.....	¹	⁵	⁸	²²	⁵	³	311	66
Southern Rhodesia.....	²	²	²	²	6,320	4,279	⁸	⁸
Tanganyika.....	⁹	1,834	2,139	2,173	7,315	9,061	¹⁰	¹⁰
Tanzania.....	¹¹	¹¹	¹¹	¹¹	¹¹	¹¹	6,907	7,065
Uganda.....	⁹	1,277	2,325	2,213	3,144	4,582	6,800	5,862
Zambia.....	¹²	¹²	¹²	¹²	¹²	¹²	²	⁸
British Africa, <i>n.e.s.</i>	¹³	⁵	⁵³	⁷	⁴	³	⁴	⁸
Algeria.....	¹⁴	161	162	509	458	61	98	47
Angola.....	¹⁵	209	136	122	728	1,297	1,415	3,095
Cameroon.....	¹⁴	¹⁴	¹⁴	15	147	43	121	57
Congo.....	2,258	1,781	1,314	1,320	1,921	1,911	1,661	1,081
French Equatorial Africa.....	¹⁴	185	27	⁸	¹⁴	¹⁴	¹⁴	¹⁴
French West Africa.....	¹⁴	270	¹	¹³	¹⁴	¹⁴	¹⁴	¹⁴
French Africa, <i>n.e.s.</i>	2,183	33	29	17	310	1,263	68	542
Gabon.....	¹⁴	¹⁴	658	1,123	859	687	274	1,064
Guinea.....	¹⁴	2,794	4,824	896	2,501	1,707	1,066	2,088
Ivory Coast.....	¹⁴	¹⁴	788	244	227	623	247	814
Liberia.....	39	8	144	40	106	327	208	63
Malagasy.....	¹⁴	¹⁴	¹⁴	¹⁴	¹⁴	¹⁴	668	538
Morocco.....	209	222	164	487	540	1,162	278	1,406
Mozambique.....	18	1	30	139	395	431	633	515
Portuguese Africa, <i>n.e.s.</i>	—	—	—	¹³	—	—	—	—
Spanish Africa.....	8	2	17	23	39	22	6	2
Togo.....	¹⁴	¹⁴	¹⁴	—	—	—	⁶	—
Tunisia.....	¹⁴	62	32	17	2	19	19	12
Totals, Commonwealth and Preferential Countries.....	26,563	27,729	35,469	45,772	78,433	87,055	79,664	105,060
Totals, Other Countries.....	4,715	5,728	8,327	4,962	8,234	9,553	6,767	11,323
Totals, Other Africa.....	31,278	33,456	43,796	50,734	86,667	96,608	86,431	116,383
Other Asia—								
Ceylon.....	15,133	15,556	16,516	14,763	14,642	13,413	14,049	10,045
Hong Kong.....	12,969	15,534	14,143	18,889	21,197	26,321	31,043	38,911
India.....	29,221	29,352	33,465	43,479	52,664	36,121	43,424	40,093
Malaysia.....	28,644	28,120	23,597	27,740	31,634	34,566	40,272	41,453
Pakistan.....	1,061	985	2,367	2,561	2,270	4,211	3,654	4,287
British East Indies, <i>n.e.s.</i>	390	261	297	511	¹⁶	¹⁶	¹⁶	¹⁶
Afghanistan.....	—	—	¹³	—	—	—	—	15
Burma.....	24	85	30	50	102	276	39	106
Cambodia and Laos.....	¹⁷	¹⁷	²	—	—	—	—	—
China, Communist.....	4,840	5,638	3,233	4,521	5,147	9,420	14,445	20,594
Indonesia.....	147	529	290	173	152	1,393	2,365	1,158
Japan.....	102,669	110,352	116,607	125,359	130,471	174,388	230,144	253,051
Korea.....	235	404	76	99	380	473	1,468	1,764
Philippines.....	1,440	1,966	1,517	1,447	2,007	2,970	3,583	3,344
Portuguese Asia.....	¹³	—	—	77	428	1,204	2,069	33
Taiwan (Republic of China).....	716	1,150	1,856	2,910	5,875	9,063	9,333	13,089
Thailand.....	649	842	582	1,031	582	582	899	2,431
Viet-Nam.....	8	5	9	7	¹	⁴	²	¹
Totals, Commonwealth and Preferential Countries.....	87,418	89,807	90,384	107,943	122,407	114,633	132,443	134,788
Totals, Other Countries.....	110,728	121,020	124,202	135,673	145,145	199,772	264,347	295,586
Totals, Other Asia.....	198,146	210,827	214,586	243,616	267,552	314,405	396,790	430,375

¹ Formerly Nyasaland.² Included with Rhodesia and Nyasaland.³ See Zambia.⁴ SeeMalawi. ⁵ Formerly Southern Rhodesia.⁶ See Northern Rhodesia, Southern Rhodesia and Nyasa-land. ⁷ See Zambia, Rhodesia and Malawi.⁸ See Rhodesia. ⁹ Included with Kenya.¹⁰ See Tanzania. ¹¹ Formerly Tanganyika.¹² Formerly Northern Rhodesia.¹³ Less than\$500. ¹⁴ Included with French Africa, *n.e.s.*¹⁵ Included with Portuguese Africa, *n.e.s.*¹⁶ In-cluded with Malaysia. ¹⁷ Included with Viet-Nam.

6.—Value of Imports, by Geographic Region and Country, 1959-66—continued

Region and Country	1959	1960	1961	1962	1963	1964	1965 ¹	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Oceania—								
Australia.....	41,080	35,508	36,649	45,216	55,650	59,827	47,372	59,577
Fiji.....	4,764	6,481	2,512	3,144	8,588	7,401	4,801	2,727
New Zealand.....	8,594	10,099	10,546	12,005	14,067	14,076	14,870	14,977
British Oceania, <i>n.e.s.</i>	157	—	1	—	5	6	—	1
French Oceania.....	1	—	40	—	1	3,559	5,092	6,611
United States Oceania.....	1	21	55	214	27	28	138	86
Totals, Commonwealth and Preferential Countries.....	54,595	52,087	49,706	60,365	78,310	81,310	67,044	77,270
Totals, Other Countries.....	1	21	96	214	27	3,586	5,229	6,698
Totals, Oceania.....	54,597	52,109	49,802	60,578	78,338	84,896	72,273	83,968
South America—								
British Guiana.....	18,033	18,921	23,030	23,375	31,334	35,653	22,549	29,126
Falkland Islands.....	1	8	8	—	—	—	—	—
Argentina.....	3,380	3,611	3,399	5,649	5,352	5,938	5,400	4,882
Bolivia.....	166	443	883	957	70	289	384	175
Brazil.....	28,479	24,883	29,081	31,600	36,361	39,533	35,573	35,777
Chile.....	870	747	1,217	1,117	1,271	1,755	1,713	1,891
Colombia.....	15,827	12,784	13,023	15,658	13,576	14,889	16,812	11,611
Ecuador.....	7,623	11,018	7,682	8,611	7,625	9,353	8,546	7,873
French Guiana.....	—	—	—	—	1	—	—	18
Paraguay.....	746	760	874	378	831	547	455	477
Peru.....	3,978	3,037	4,233	3,225	3,770	7,792	9,053	3,517
Surinam.....	2,872	4,156	3,482	4,067	6,158	6,978	8,702	8,156
Uruguay.....	657	987	1,834	793	868	968	975	477
Venezuela.....	204,582	195,189	216,640	224,275	243,495	270,621	254,670	215,056
Totals, Commonwealth and Preferential Countries.....	18,034	18,929	23,038	23,375	31,334	35,653	22,549	29,126
Totals, Other Countries.....	269,180	257,615	282,349	296,329	319,379	358,664	342,283	289,916
Totals, South America.....	287,213	276,544	305,387	319,703	350,714	394,317	364,832	319,041
Central America and Antilles—								
Bahamas.....	233	2,614	484	217	426	412	533	1,214
Barbados.....	4,709	2,417	4,980	3,170	3,954	3,851	3,041	2,277
Bermuda.....	1,291	701	224	136	262	190	403	727
British Honduras.....	92	91	701	629	1,720	1,858	1,235	1,475
Jamaica.....	31,012	37,688	38,511	39,721	51,524	47,858	36,000	37,281
Leeward and Windward Islands.....	1,989	1,496	1,261	1,686	2,202	1,026	832	943
Trinidad and Tobago.....	12,731	14,512	14,375	14,100	15,871	20,738	16,670	16,050
Costa Rica.....	4,810	4,345	4,227	6,259	7,308	8,363	6,715	6,468
Cuba.....	12,011	7,243	5,034	2,803	13,041	3,464	5,304	5,628
Dominican Republic.....	1,634	1,586	1,269	1,912	2,281	5,093	2,050	1,311
El Salvador.....	3,899	829	1,307	1,848	1,960	3,356	2,696	2,110
French West Indies.....	7	28	426	326	278	263	552	48
Guatemala.....	2,718	3,256	2,536	1,796	2,557	2,422	2,879	2,686
Haiti.....	1,053	982	810	566	1,159	2,056	1,076	944
Honduras.....	2,905	3,352	7,391	7,617	6,868	7,670	10,193	11,445
Mexico.....	34,201	21,007	18,193	24,416	23,734	23,186	27,247	33,539
Netherlands Antilles.....	47,120	32,521	31,137	35,856	35,999	34,885	43,341	38,511
Nicaragua.....	306	170	208	107	383	727	247	437
Panama.....	8,889	6,066	6,168	8,321	11,057	15,095	19,414	16,066
Puerto Rico.....	1,780	2,904	2,359	2,713	2,309	3,554	2,759	4,404
United States Virgin Islands.....	32	32	1	1	1	3	—	4
Totals, Commonwealth and Preferential Countries.....	52,057	59,518	60,535	59,658	75,960	75,933	58,714	59,971
Totals, Other Countries.....	121,365	84,322	81,067	94,541	109,025	110,137	124,471	123,586
Totals, Central America and Antilles.....	173,422	143,839	141,603	154,199	184,985	186,070	183,185	183,557

¹ Less than \$500.

6.—Value of Imports, by Geographic Region and Country, 1959-66—concluded

Region and Country	1959	1960	1961	1962	1963	1964	1965 [*]	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America—								
Greenland.....	53	1	102	111	106	110	—	16
St. Pierre and Miquelon.....	27	60	42	118	84	189	76	174
United States ²	3,709,065	3,686,625	3,863,968	4,299,539	4,444,556	5,164,285	6,044,831	7,135,611
Totals, North America.....	3,709,145	3,686,685	3,864,111	4,299,769	4,444,746	5,164,585	6,044,907	7,135,801
Grand Totals, Commonwealth and Preferential Countries..	829,814	870,099	910,377	881,563	927,620	979,845	991,838	1,061,035
Grand Totals, Other Countries	4,679,107	4,612,597	4,858,201	5,376,213	5,630,589	6,507,862	7,641,310	8,805,405
Grand Totals, All Countries.	5,508,921	5,482,695	5,768,578	6,257,776	6,558,209	7,487,707	8,633,148	9,866,439

¹ Less than \$500.² Includes Alaska and Hawaii.

The proportion of imports subject to duty varies widely between countries and geographic areas. Generally, the Canadian tariff imposes duties on a greater proportion of manufactured goods than of natural products. Countries supplying chiefly manufactures to Canada tend to have duties charged on a greater proportion of their goods and also to have relatively higher average ad valorem rates of duty charged on their goods than is the case with countries supplying chiefly natural products. Variations in the proportion of imports dutiable as between different countries or in the average ad valorem rates of duty charged on imports from different countries therefore do not necessarily indicate differences in the tariff relations between Canada and these countries.

7.—Values of Dutiable and Free Imports, by Geographic Region and Leading Countries, 1964-66

Region and Country	1964			1965 [*]			1966		
	Dutiable	Free	Total	Dutiable	Free	Total	Dutiable	Free	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Western Europe.....	659,727	488,944	1,139,670	791,384	544,262	1,335,646	848,353	581,548	1,429,900
Britain.....	223,478	350,518	573,995	249,545	369,513	619,058	271,759	372,982	644,741
Austria.....	8,712	884	9,595	11,194	1,087	12,281	13,840	1,352	15,192
Belgium and Luxembourg.....	45,024	14,174	59,198	57,736	14,291	72,027	45,963	15,591	61,555
Denmark.....	10,876	4,874	15,749	13,380	6,691	20,071	16,563	7,618	24,181
France.....	54,879	13,808	68,687	79,208	16,894	96,103	78,250	28,400	106,651
Germany, Federal Republic.....	135,436	34,956	170,392	162,345	47,171	209,517	174,886	60,321	235,207
Italy.....	60,976	6,486	67,462	72,089	8,190	80,279	77,939	8,779	86,718
Netherlands.....	30,417	9,516	39,933	42,845	13,428	56,274	45,805	14,684	60,489
Norway.....	6,045	21,290	27,335	9,642	23,999	33,641	12,239	21,535	33,774
Spain.....	5,375	6,329	11,704	6,449	6,830	13,280	7,229	5,276	12,505
Sweden.....	28,075	10,719	38,794	36,935	18,634	55,568	49,801	22,739	72,541
Switzerland.....	27,303	9,630	36,932	32,738	11,248	43,986	35,702	14,577	50,279
Eastern Europe.....	26,697	3,269	29,966	35,245	9,344	44,588	46,937	9,628	56,566
Czechoslovakia.....	12,019	828	12,847	15,097	868	15,965	21,119	589	21,709
Poland.....	9,117	164	9,280	11,329	486	11,815	13,397	360	13,757
Middle East.....	4,660	72,530	77,191	5,242	99,255	104,496	5,387	105,461	110,848
Qatar.....	—	2,285	2,285	—	2,732	2,732	—	—	—
Iran.....	228	30,857	31,085	630	31,135	31,765	587	34,882	35,469
Iraq.....	129	2,250	2,379	82	5,202	5,284	75	12,454	12,529
Israel.....	3,238	3,032	6,270	3,164	3,491	6,656	3,015	3,743	6,758
Kuwait.....	2	11,217	11,219	7	11,498	11,505	202	5,955	6,157
Saudi Arabia.....	1	18,552	18,553	1	42,113	42,113	—	32,553	32,553

¹ Less than \$500.

7.—Values of Dutiable and Free Imports, by Geographic Region and Leading Countries, 1961-66—concluded

Region and Country	1964			1965 ¹			1966		
	Dutiable	Free	Total	Dutiable	Free	Total	Dutiable	Free	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Other Africa	38,050	58,558	96,608	27,923	58,508	86,431	22,242	94,141	116,383
Ghana.....	2,283	5,678	7,961	3,465	6,693	10,158	1,056	9,769	10,824
Kenya.....	78	7,319	7,397	62	6,801	6,862	90	7,115	7,206
Mauritius and Dependencies.....	13,008	385	13,394	6,389	67	6,456	5,127	4	5,131
Nigeria.....	3,588	7,676	11,264	2,681	8,571	11,252	2,552	36,938	39,490
Republic of South Africa.....	13,709	15,068	28,777	10,915	16,198	27,113	9,987	17,654	27,641
Tanganyika.....	52	9,009	9,061	1	1	1	1	1	1
Tanzania.....	2	2	2	86	6,820	6,907	51	7,014	7,065
Other Asia	219,899	94,506	314,405	289,079	107,711	396,790	319,321	111,053	430,375
Ceylon.....	666	12,747	13,413	793	13,256	14,049	471	9,574	10,045
Hong Kong.....	25,341	980	26,321	29,940	1,102	31,043	37,817	1,094	38,911
India.....	9,867	26,254	36,121	15,120	28,305	43,424	12,678	27,415	40,093
Malaysia.....	2,824	31,742	34,566	2,617	37,656	40,272	3,028	38,425	41,453
China, Communist.....	5,030	4,390	9,420	8,640	5,805	14,445	13,191	7,403	20,594
Japan.....	160,974	13,414	174,388	213,569	16,575	230,144	234,536	18,515	253,051
Taiwan (Republic of China).....	8,772	291	9,063	8,898	435	9,333	12,613	475	13,089
Oceania	45,244	39,652	84,896	30,627	41,646	72,273	38,470	45,499	83,968
Australia.....	33,167	26,660	59,827	21,143	26,230	47,372	30,723	28,851	59,573
Fiji.....	7,391	10	7,401	4,787	14	4,801	2,707	17	2,724
New Zealand.....	4,650	9,426	14,076	4,560	10,310	14,870	4,950	10,022	14,972
South America	109,371	293,946	394,317	103,114	261,718	364,832	109,606	218,436	319,041
British Guiana.....	18,136	17,516	35,653	6,376	16,173	22,549	6,587	22,538	29,126
Brazil.....	25,214	14,319	39,533	22,250	13,323	35,573	22,831	12,946	35,777
Colombia.....	13,013	1,876	14,889	14,019	2,793	16,812	9,938	1,681	11,619
Ecuador.....	9,273	80	9,353	8,140	406	8,546	7,742	131	7,873
Venezuela.....	27,552	243,070	270,621	46,245	208,425	254,670	48,496	166,563	215,059
Central America and Antilles	120,285	65,785	186,070	121,231	61,954	183,185	112,864	70,693	183,557
Jamaica.....	16,193	31,665	47,858	6,729	29,271	36,000	7,660	29,620	37,281
Trinidad and Tobago.....	9,487	11,251	20,738	6,436	10,234	16,670	5,225	10,825	16,050
Costa Rica.....	8,325	38	8,363	6,518	197	6,715	6,426	32	6,458
Honduras.....	7,435	235	7,670	9,994	199	10,193	11,299	141	11,440
Mexico.....	9,942	13,244	23,186	11,694	15,553	27,247	12,131	21,408	33,539
Netherlands Antilles.....	34,795	91	34,885	43,072	268	43,341	38,073	437	38,511
Panama.....	15,058	37	15,095	19,378	36	19,414	16,048	17	16,066
North America	2,828,971	2,325,614	5,164,585	2,962,003	3,081,904	6,044,907	3,337,530	3,798,271	7,135,801
United States.....	2,828,941	2,335,344	5,164,285	2,962,983	3,081,848	6,044,831	3,337,436	3,798,174	7,135,611
Totals, Commonwealth and Preferential Countries	396,112	583,733	979,845	384,683	607,156	991,838	412,531	648,504	1,061,035
Totals, Other Countries	3,638,790	2,869,072	6,507,862	3,982,166	3,659,144	7,641,310	4,419,179	4,386,226	8,805,405
Grand Totals, Imports	4,034,903	3,452,804	7,487,707	4,366,849	4,266,300	8,633,148	4,831,709	5,034,730	9,866,439

¹ See Tanzania.² Formerly Tanganyika.

Section 4.—Trade by Commodity

This Section provides detailed information on the composition of Canada's exports and imports for 1965 and 1966. Table 8 shows exports and re-exports to and imports from all countries, Britain and the United States, classified by section; Table 9 gives detailed statistics of all commodities of any importance exported from Canada to all countries, to Britain and to the United States; and detailed statistics for imports into Canada by section and commodity appear in Table 10.

8.—Exports to and Imports from All Countries, Britain and the United States, by Section, 1965 and 1966

(Millions of dollars)

Section	Domestic Exports		Re-exports		Imports	
	1965	1966	1965	1966	1965 ¹	1966
All Countries	8,525.1	10,070.6	241.6	254.7	8,633.1	9,866.4
Live animals.....	79.1	78.0	0.1	0.1	10.8	12.9
Food, feed, beverages and tobacco.....	1,629.8	1,888.3	10.5	10.1	758.9	791.7
Crude materials, inedible.....	1,763.7	1,947.6	8.3	9.2	1,006.3	1,023.2
Fabricated materials, inedible.....	3,728.8	4,012.1	57.0	50.2	2,114.4	2,233.1
End products, inedible.....	1,300.1	2,119.3	160.2	181.5	4,476.3	5,483.4
Special transactions—trade.....	23.5	25.3	5.5	3.6	266.5	322.0
Britain	1,174.3	1,122.6	11.0	9.3	619.1	644.7
Live animals.....	0.1	—	—	—	0.1	0.1
Food, feed, beverages and tobacco.....	302.3	286.7	0.7	0.8	40.3	44.2
Crude materials, inedible.....	256.3	231.6	0.2	0.5	37.0	31.6
Fabricated materials, inedible.....	567.5	547.7	1.8	1.2	189.9	175.2
End products, inedible.....	47.7	56.1	8.3	6.8	342.6	380.1
Special transactions—trade.....	0.5	0.6	—	—	9.0	13.5
United States	4,840.5	6,027.7	192.3	206.8	6,044.8	7,135.6
Live animals.....	72.0	69.0	0.1	0.1	10.2	12.2
Food, feed, beverages and tobacco.....	408.9	429.4	7.3	8.3	374.5	402.1
Crude materials, inedible.....	1,012.1	1,122.7	6.7	7.3	490.8	506.4
Fabricated materials, inedible.....	2,481.7	2,760.8	51.5	45.2	1,350.2	1,481.8
End products, inedible.....	847.5	1,626.0	121.4	142.8	3,578.3	4,451.6
Special transactions—trade.....	18.3	20.0	5.4	3.1	240.7	281.4

9.—Domestic Exports from Canada to All Countries, to Britain and to the United States, by Section and Commodity, 1965 and 1966

Section and Commodity	All Countries		Britain		United States	
	1965	1966	1965	1966	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Live Animals	79,133	78,002	79	37	72,008	68,951
Food, Feed, Beverages and Tobacco	1,629,818	1,888,293	302,305	286,672	408,917	429,366
Meat, fresh, chilled or frozen.....	59,542	57,278	4,865	5,074	47,680	46,271
Other meat and meat preparations.....	16,652	14,604	417	321	10,205	8,239
Fish, whole or dressed, fresh or frozen.....	44,239	48,481	4,263	5,956	34,265	34,754
Fish, fillets and blocks, fresh or frozen.....	65,002 ¹	69,071	1,073	1,540	62,909	66,427
Fish, preserved, except canned.....	23,444	23,941	49	—	6,540	6,961
Fish, canned.....	24,695	25,854	11,006	10,021	420	815
Shellfish.....	39,186	34,472	1,199	775	36,260	31,577
Dairy produce, eggs and honey.....	43,548	34,667	14,264	15,315	1,422	2,428
Barley.....	63,679	44,957	13,189	5,741	8,393	8,112
Wheat.....	840,175	1,060,670	140,383	132,532	1,525	2,850
Other cereals, unmilled.....	26,534	27,862	1,870	1,047	6,583	6,725
Wheat flour.....	66,305	82,836	19,482	16,690	1,706	1,007
Other cereals, milled.....	8,898	9,222	1,314	947	1,724	1,772
Cereal preparations.....	8,058	10,644	337	331	6,817	9,017
Fruits and fruit preparations.....	20,093	23,058	6,859	6,594	9,636	12,250
Vegetables and vegetable preparations.....	41,889	39,718	13,582	15,932	13,917	8,744
Sugar and sugar preparations.....	12,661	13,777	202	213	9,370	10,681
Other foods and materials for foods.....	19,039 ¹	29,553	3,690	3,545	7,894	17,186
Oil seed cake and meal.....	26,434	21,751	25,435	21,074	110	57
Other feeds of vegetable origin.....	21,276	18,327	1,732	1,328	15,248	13,167
Other fodder and feed.....	21,398	24,971	5,854	6,790	10,550	12,214
Whisky.....	116,983	127,508	465	388	110,558	122,736
Other beverages.....	4,724	5,085	13	12	4,539	4,822
Tobacco.....	35,363	40,003	30,761	34,504	646	554
Crude Materials, Inedible	1,763,701	1,947,625	256,260	231,552	1,012,093	1,122,691
Raw hides and skins.....	22,676	34,352	1,533	1,307	5,418	4,217
Fur skins, undressed.....	30,305	32,586	6,686	6,879	17,669	17,730
Other crude animal products.....	10,863	12,246	1,426	1,373	8,772	10,031
Seeds for sowing.....	13,720	12,819	2,578	2,272	6,858	7,018
Flaxseed.....	51,658	60,816	16,261	12,084	1	5
Rapeseed.....	30,900	38,480	1,057	436	18	23

¹ Less than \$500.

9.—Domestic Exports from Canada to All Countries, to Britain and to the United States, by Section and Commodity, 1965 and 1966—continued

Section and Commodity	All Countries		Britain		United States	
	1965	1966	1965	1966	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Crude Materials, Inedible—concluded						
Other oil seeds, oil nuts and oil kernels...	15,562	18,645	9,558	10,634	2,075	4,381
Other crude vegetable products.....	14,053	14,671	173	178	12,996	13,340
Pulpwood.....	40,819	40,974	3,096	3,008	23,045	26,467
Other crude wood materials.....	18,511	22,176	908	583	13,244	15,244
Textile and related fibres.....	15,250	10,534	1,154	1,198	7,218	4,442
Iron ores and concentrates.....	360,819	369,009	31,803	23,779	285,062	301,068
Scrap iron and steel.....	8,265	10,033	1	3	6,611	7,582
Aluminum ores, concentrates and scrap..	11,529	14,749	107	1	4,995	8,614
Copper in ores, concentrates and scrap...	77,831	130,898	2,840	2,534	9,589	41,203
Lead in ores, concentrates and scrap.....	22,946	20,342	1,224	787	9,754	10,714
Nickel in ores, concentrates and scrap.....	189,336	186,725	87,610	81,301	39,582	28,653
Precious metals in ores, concentrates and scrap.....	47,428	45,010	27,533	26,668	11,454	12,513
Zinc in ores, concentrates and scrap.....	69,849	77,745	1,910	1,034	31,093	39,724
Radioactive ores and concentrates.....	53,698	36,366	38,948	22,605	14,749	13,761
Other metals in ores, concentrates and scrap.....	20,873	43,204	6,086	12,248	4,598	5,276
Crude petroleum.....	279,956	321,681	—	—	279,956	321,681
Natural gas.....	104,280	108,750	—	—	104,280	108,750
Coal and other crude bituminous substances.....	13,045	13,774	—	6	2,368	2,326
Asbestos unmanufactured.....	158,657	182,484	11,865	18,670	65,195	64,974
Sulphur.....	27,470	34,572	—	196	10,215	13,666
Other crude non-metallic minerals.....	43,788	42,307	1,590	1,682	28,683	30,948
Other waste and scrap materials.....	9,614	11,677	315	86	6,597	8,339
Fabricated Materials, Inedible.....	3,728,769	4,012,068	567,484	547,701	2,481,658	2,760,777
Leather and leather fabricated materials	8,742	9,897	1,297	1,371	5,465	6,145
Lumber, softwood.....	457,967	439,569	77,286	61,316	314,563	314,938
Lumber, hardwood.....	31,967	38,485	2,946	2,339	28,408	35,130
Shingles and shakes.....	30,063	27,381	178	168	29,638	26,866
Other sawmill products.....	5,428	6,287	613	376	4,680	5,757
Veneer.....	31,580	31,762	45	49	27,909	29,052
Plywood.....	37,510	41,518	25,249	25,565	7,112	7,476
Other wood fabricated materials.....	7,663	7,386	1,804	1,125	5,056	5,492
Wood pulp and similar pulp.....	493,501	520,068	40,404	35,588	371,428	390,760
Newsprint paper.....	869,586	968,224	46,932	48,883	735,611	823,664
Other paper for printing.....	16,354	24,251	2,391	3,499	12,821	18,822
Paperboard.....	21,300	29,732	16,491	21,003	1,227	878
Other paper.....	30,804	33,627	7,760	9,671	12,091	12,666
Yarn, thread, cordage, twine and rope...	16,158	18,170	1,103	932	11,821	12,828
Cotton broad woven fabrics.....	11,687	11,138	6,400	5,167	2,838	4,231
Other broad woven fabrics.....	4,944	5,885	1,574	2,002	595	721
Other textile fabricated materials.....	16,113	12,272	1,690	1,289	3,008	2,455
Oils, fats, waxes, extracts and derivatives	24,319	21,030	12,130	8,846	2,047	2,445
Chemical elements.....	8,526	11,442	1,839	2,202	5,018	7,114
Other inorganic chemicals.....	35,907	41,248	6,916	10,029	18,922	21,555
Organic chemicals.....	55,172	57,151	14,425	15,162	29,636	29,737
Fertilizers and fertilizer materials.....	111,831	139,560	11	18	95,598	114,064
Synthetic rubber and plastics materials.	87,885	76,378	18,888	12,562	17,687	22,653
Plastics, basic shapes and forms.....	12,897	13,362	1,095	1,007	1,442	2,063
Other chemical products.....	10,302	25,010	1,517	2,060	5,065	15,849
Petroleum and coal products.....	22,572	28,690	528	505	20,630	26,671
Ferro-alloys.....	5,781	5,938	3,770	2,988	1,544	2,660
Primary iron and steel.....	65,906	61,271	787	1,803	57,445	55,540
Castings and forgings, steel.....	31,512	40,823	38	9	28,125	37,113
Bars and rods, steel.....	16,144	18,155	2,934	1,419	9,476	13,205
Plate, sheet and strip, steel.....	78,140	76,956	3,418	4,619	45,888	44,110
Railway track material.....	11,600	11,547	—	—	840	1,554
Other iron and steel and alloys.....	20,691	29,379	489	445	11,914	19,530
Aluminum, including alloys.....	360,965	372,275	97,335	79,166	162,124	183,809
Copper and alloys.....	194,850	266,067	81,489	105,461	69,497	116,923
Lead, including alloys.....	41,243	27,834	19,819	9,985	9,953	11,087
Nickel and alloys.....	207,864	212,433	22,391	30,053	167,186	163,732
Precious metals, including alloys.....	17,589	17,773	20	534	17,500	17,048
Zinc, including alloys.....	71,588	67,834	29,092	27,215	26,369	32,547
Other non-ferrous metals and alloys.....	14,670	18,010	5,043	4,689	6,785	10,602
Metal fabricated basic products.....	43,039	52,595	2,812	3,427	28,359	33,898
Abrasive basic products.....	34,246	38,963	3,412	1,803	29,808	35,478
Other non-metallic mineral basic products.....	22,537	24,461	1,715	638	16,409	18,602

¹ Less than \$500.

9.—Domestic Exports from Canada to All Countries, to Britain and to the United States, by Section and Commodity, 1965 and 1966—concluded

Section and Commodity	All Countries		Britain		United States	
	1965	1966	1965	1966	1965	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Fabricated Materials, Inedible—concl.						
Electricity.....	15,492	16,188	—	—	15,492	16,188
Other fabricated materials, inedible.....	14,132	14,073	1,408	714	6,626	7,222
End Products, Inedible.....	1,300,145	2,119,324	47,693	56,058	847,472	1,625,975
Engines and turbines, general purpose....	5,880	9,959	211	120	2,331	5,408
Electric generators and motors.....	8,834	8,783	657	423	1,876	3,993
Other general-purpose industrial machinery.....	26,573	37,769	1,246	2,250	15,093	21,379
Materials handling machinery and equipment.....	21,342	31,682	232	252	16,795	25,779
Drilling, excavating, mining machinery.....	24,193	24,633	447	651	9,224	14,126
Metalworking machinery.....	12,571	17,863	1,048	1,009	7,952	12,719
Woodworking machinery and equipment.....	11,760	13,827	810	1,105	4,762	5,410
Construction machinery and equipment.....	9,678	17,495	326	273	7,089	12,564
Plastics industry machinery and equipment.....	11,829	14,744	611	788	10,677	13,294
Pulp and paper industries machinery.....	8,413	9,293	737	817	4,238	6,172
Other special industry machinery.....	19,397	23,620	1,939	2,222	11,795	14,787
Soil preparation, seeding, fertilizing machinery.....	22,618	29,512	243	182	21,273	28,303
Combine reaper-threshers and parts.....	85,657	88,235	1,351	941	73,693	82,650
Other haying and harvesting machinery.....	30,469	33,222	43	45	28,948	31,117
Other agricultural machinery and equipment.....	10,971	14,669	203	235	10,114	13,877
Tractors.....	12,216	16,859	195	114	10,939	15,675
Railway and street railway rolling-stock.....	7,586	6,184	1	—	1,330	1,668
Passenger automobiles and chassis.....	148,643	429,624	1,197	877	66,216	346,378
Other motor vehicles.....	34,530	173,257	71	137	24,353	146,477
Motor vehicle engines and parts.....	44,358	137,857	588	381	41,979	134,387
Motor vehicle parts, except engines.....	128,444	252,858	1,851	1,411	98,703	213,683
Ships and boats.....	17,712	21,713	1,230	1,649	10,988	14,101
Aircraft, complete with engines.....	105,266	19,440	—	335	81,374	5,419
Aircraft engines and parts.....	48,521	72,658	667	1,140	37,849	57,514
Aircraft parts, except engines.....	53,250	118,090	467	594	44,728	104,080
Other vehicles.....	3,151	4,860	28	4	3,038	4,773
Rubber tires and tubes.....	7,470	9,682	45	68	2,444	4,687
Television and radio sets and phonographs.....	8,312	20,363	149	188	6,595	19,240
Other communication and related equipment.....	62,457	80,097	1,452	1,327	41,916	63,721
Heating and refrigeration equipment.....	16,614	16,823	4,982	4,100	7,262	8,250
Cooking equipment for food.....	3,994	3,498	2,590	1,781	708	672
Electric lighting and distribution equipment.....	24,270	32,066	1,923	2,001	10,647	15,287
Navigation equipment and parts.....	49,922	63,290	171	846	29,858	44,981
Other measuring, controlling, laboratory, medical and optical equipment.....	19,860	25,854	1,858	2,664	11,436	14,588
Hand tools and miscellaneous cutlery.....	8,738	7,037	1,071	1,329	1,656	1,164
Office machines and equipment.....	32,288	37,870	1,457	5,008	10,610	14,176
Other equipment and tools.....	19,196	24,332	2,784	4,264	8,647	12,040
Apparel and apparel accessories.....	23,937	28,902	3,399	3,764	10,145	13,709
Footwear.....	4,902	4,671	317	408	3,597	3,446
Toys, games, sporting, recreation equipment.....	9,661	10,008	1,130	1,169	5,458	6,325
Other personal and household goods.....	13,924	16,143	2,776	3,311	3,577	5,038
Medicinal and pharmaceutical products.....	12,643	16,347	404	643	1,488	1,925
Medical, ophthalmic, orthopaedic supplies.....	1,992	2,322	106	96	796	342
Printed matter.....	10,629	11,923	702	945	7,971	8,776
Photographic goods.....	8,963	9,517	596	573	5,247	5,109
Firearms, ammunition and ordnance.....	11,369	32,198	870	787	7,534	26,755
Containers and closures.....	7,791	8,387	305	335	4,139	5,006
Prefabricated buildings and structures.....	9,399	16,137	258	184	5,701	7,284
Other end products.....	17,952	13,153	1,951	2,315	12,684	7,718
Special Transactions—Trade.....	23,512	25,316	487	554	18,307	19,962
Shipments valued at less than \$100 each.....	16,024	16,239	458	453	12,582	12,849
Other special transactions—trade.....	7,488	9,078	29	101	5,725	7,112
Totals, Exports.....	8,525,078	10,070,627	1,174,309	1,122,574	4,840,456	6,027,722

¹Less than \$500.

10.—Imports into Canada for Consumption from All Countries, from Britain and from the United States, by Section and Commodity, 1965 and 1966

Section and Commodity	All Countries		Britain		United States	
	1965 ¹	1966	1965 ¹	1966	1965 ¹	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Live Animals.....	10,801	12,910	125	126	10,246	12,241
Food, Feed, Beverages and Tobacco.....	758,891	791,741	40,320	44,187	374,527	402,097
Meat, fresh, chilled or frozen.....	26,539	39,609	3,862	3,994	11,960	16,090
Other meat and meat preparations.....	15,122	18,816	278	371	9,134	10,926
Fish and marine animals.....	26,421	29,966	399	557	13,893	16,783
Dairy produce, eggs and honey.....	18,038	28,936	481	1,352	7,924	10,745
Indian corn, shelled.....	27,789	31,554	—	—	27,789	31,548
Other cereals and cereal preparations.....	28,256	29,257	4,108	4,359	19,957	21,512
Bananas and plantains, fresh.....	31,446	31,763	—	—	10	21
Grapes, fresh.....	19,987	21,376	3	—	18,764	19,935
Oranges, mandarins and tangerines, fresh.....	29,564	28,703	1	4	23,118	22,553
Other fresh fruits and berries.....	38,237	39,715	—	13	35,672	37,078
Fruits, dried or dehydrated.....	16,551	15,214	14	8	7,000	6,809
Orange juice and concentrates.....	15,270	16,537	12	2	12,419	13,114
Other fruit juices and concentrates.....	7,186	7,119	106	383	6,270	5,798
Fruits and products, canned.....	27,446	28,818	914	852	14,409	15,322
Other fruits and fruit preparations.....	11,503	10,873	115	59	2,913	2,582
Nuts, except oil nuts.....	16,189	15,814	179	98	5,954	6,371
Tomatoes, fresh.....	17,665	18,864	—	—	11,631	12,431
Other fresh vegetables.....	49,972	56,037	1	—	48,498	54,437
Other vegetables and vegetable preparations.....	23,158	24,488	496	527	13,869	13,414
Raw sugar.....	55,134	44,873	—	—	—	—
Refined sugar, molasses and syrups.....	5,701	6,310	249	284	1,711	2,065
Sugar preparations and confectionery.....	15,851	14,023	7,042	6,892	5,050	3,686
Cocoa and chocolate.....	19,957	19,327	2,010	3,399	777	871
Coffee.....	78,692	72,389	408	213	16,146	15,728
Tea.....	25,617	23,130	3,561	3,621	651	714
Other foods and materials for foods.....	36,310	39,752	1,201	1,428	22,722	26,377
Oil seed cake and meal.....	21,075	20,675	1	1	21,074	20,675
Other fodder and feed.....	5,744	5,564	131	75	5,340	5,335
Distilled alcoholic beverages.....	22,308	25,588	12,941	13,905	1,331	2,207
Other beverages.....	15,414	17,919	1,311	1,306	1,688	1,365
Tobacco.....	10,751	8,733	497	484	6,851	5,607
Crude Materials, Inedible.....	1,006,274	1,023,212	36,995	31,622	490,848	506,439
Fur skins, undressed.....	20,728	20,368	3,231	3,836	9,239	7,927
Other crude animal products.....	13,424	20,753	795	923	10,673	17,779
Soya beans.....	46,327	52,438	—	—	46,324	52,436
Other oil seeds, oil nuts and oil kernels.....	14,490	12,938	4	6	9,674	9,340
Rubber and allied gums, natural.....	21,789	24,898	2	5	2,212	2,134
Other crude vegetable products.....	21,481	21,353	204	151	15,247	15,850
Crude wood materials.....	29,400	24,067	—	—	29,210	23,869
Wool and fine animal hair.....	40,358	37,661	23,372	19,118	2,639	2,983
Cotton.....	68,454	49,982	44	14	53,363	31,988
Synthetic fibres.....	14,514	15,942	5,171	3,380	8,034	9,697
Other textile fibres.....	11,443	11,004	31	104	599	1,202
Iron ores and concentrates.....	60,550	56,024	—	—	58,130	52,442
Scrap iron and steel.....	36,111	20,951	2	1	36,060	20,831
Aluminum ores, concentrates and scrap.....	69,871	76,623	12	7	15,844	15,117
Other metals in ores, concentrates, scrap.....	29,135	46,328	1,748	1,518	6,725	22,810
Coal.....	126,200	141,038	102	—	126,098	141,038
Crude petroleum.....	312,259	299,001	—	—	—	—
Other crude bituminous substances.....	6,208	18,064	—	—	6,166	18,027
Abrasives, natural.....	8,528	9,629	530	470	7,144	7,031
Phosphate rock.....	13,991	19,601	—	—	13,734	17,853
Other crude non-metallic minerals.....	31,080	33,967	1,272	1,398	24,772	26,682
Other waste and scrap materials.....	9,935	10,583	476	693	8,961	9,431
Fabricated Materials, Inedible.....	2,114,423	2,233,137	189,933	175,186	1,350,165	1,481,763
Leather and leather fabricated materials.....	17,256	20,133	7,087	7,998	7,709	10,161
Rubber fabricated materials.....	26,074	34,113	2,077	2,609	21,805	28,312
Lumber.....	38,815	38,335	16	40	33,800	34,348
Veneer, plywood and wood building boards.....	19,612	23,172	167	126	7,121	7,874
Other wood fabricated materials.....	12,011	12,539	212	192	9,971	10,447
Wood pulp and similar pulp.....	14,137	8,904	13	30	12,171	7,369
Paper and paperboard.....	58,333	62,035	1,106	1,249	54,737	58,699

¹ Less than \$500.

10.—Imports into Canada for Consumption from All Countries, from Britain and from the United States, by Section and Commodity, 1965 and 1966—continued

Section and Commodity	All Countries		Britain		United States	
	1965*	1966	1965*	1966	1965*	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Fabricated Materials, Inedible—concl.						
Cotton yarn and thread.....	14,539	16,058	3,584	3,384	5,666	5,606
Synthetic fibre yarn and thread.....	22,890	18,053	779	906	13,871	11,242
Other yarn and thread.....	13,526	15,208	6,781	7,553	3,483	3,075
Cordage, twine and rope.....	9,404	9,377	1,998	1,487	1,581	1,293
Broad woven fabrics, wool and hair.....	27,010	24,617	16,925	14,827	742	1,014
Broad woven fabrics, cotton.....	70,170	80,767	3,007	2,717	36,034	44,105
Broad woven fabrics, synthetic.....	25,755	24,309	1,511	1,345	11,513	12,793
Broad woven fabrics, mixed fibres.....	35,001	36,358	4,757	3,956	21,158	21,986
Other broad woven fabrics.....	25,901	28,992	1,451	1,205	2,762	2,927
Coated or impregnated fabrics.....	16,046	21,037	1,219	1,796	13,837	16,789
Other textile fabricated materials.....	39,305	45,585	2,415	3,312	30,045	34,492
Vegetable oils and fats, except essential oils.....	29,840	35,745	1,913	1,305	16,282	14,074
Other oils, fats, waxes, extracts, derivatives.....	24,857	24,547	514	663	20,986	20,846
Inorganic chemicals.....	71,531	64,800	8,384	6,818	55,794	50,373
Organic chemicals.....	106,649	106,571	10,191	9,383	83,008	79,699
Fertilizers and fertilizer materials.....	15,516	16,019	33	23	13,527	13,546
Synthetic and reclaimed rubber.....	22,289	28,679	202	158	21,682	26,778
Plastics materials, not shaped.....	68,972	74,140	1,706	2,180	62,291	66,321
Plastic film and sheet.....	32,667	36,083	2,717	2,378	27,514	30,115
Other plastics basic shapes and forms.....	20,888	23,983	613	667	19,220	22,238
Dyestuffs, except dyeing extracts.....	17,054	18,441	1,887	1,701	8,011	8,190
Pigments, lakes and toners.....	13,282	14,405	1,001	1,140	11,389	12,348
Paints and related products.....	10,896	11,072	644	524	9,656	10,465
Other chemical products.....	80,189	86,978	3,397	3,195	71,553	78,771
Fuel oil.....	109,395	102,775	3,674	1,628	12,874	11,260
Lubricating oils and greases.....	21,458	23,727	400	351	19,145	21,490
Coke of petroleum and coal.....	18,115	21,000	—	—	18,115	21,000
Other petroleum and coal products.....	28,562	29,224	2,248	2,308	16,481	16,282
Bars and rods, steel.....	64,543	44,004	3,921	3,664	14,408	10,705
Plate, sheet and strip, steel.....	155,745	117,008	16,839	5,599	92,268	78,003
Structural shapes and sheet piling, steel.....	68,924	43,919	6,456	4,863	29,480	17,617
Pipes and tubes, iron and steel.....	48,161	56,524	4,952	4,992	28,724	32,468
Wire and wire rope, steel.....	22,721	21,420	8,458	7,792	5,057	3,973
Other iron and steel and alloys.....	41,545	63,269	1,693	1,286	29,580	47,773
Aluminum, including alloys.....	49,348	72,140	3,698	3,893	42,781	62,455
Copper and alloys.....	26,921	25,645	3,900	3,661	21,326	20,793
Nickel and alloys.....	29,876	56,999	205	827	8,688	37,279
Precious metals, including alloys.....	34,786	39,515	13,541	16,042	21,236	23,450
Tin, including alloys.....	21,755	16,921	30	128	3,223	3,189
Other non-ferrous metals and alloys.....	17,903	23,151	508	604	12,786	17,474
Bolts, nuts and screws.....	25,763	32,117	973	729	21,128	27,497
Other basic hardware.....	34,222	45,569	2,622	2,818	27,604	37,574
Chain.....	12,811	13,466	2,022	1,935	7,865	7,603
Valves.....	28,502	34,434	2,217	2,856	24,674	29,393
Pipe fittings.....	23,242	26,016	2,195	2,203	16,840	19,063
Other metal fabricated basic products.....	47,590	53,519	4,538	5,016	39,761	44,375
Clay bricks, clay tiles and refractories.....	31,724	39,741	2,694	2,786	23,844	29,420
Sheet and plate glass.....	34,277	35,550	4,986	4,937	16,186	17,917
Other glass basic products.....	19,674	23,669	1,307	1,432	15,397	18,807
Abrasive basic products.....	14,393	15,706	457	412	11,819	13,247
Natural and synthetic gem stones.....	14,941	15,011	1,424	1,582	2,245	1,304
Other non-metallic mineral basic products.....	20,876	22,851	2,434	2,856	15,021	17,014
Electricity.....	13,657	10,198	—	—	13,657	10,198
Other fabricated materials, inedible.....	37,075	46,095	3,234	3,627	29,035	36,811
End Products, Inedible.....	4,476,279	5,483,408	342,638	380,135	3,578,301	4,451,648
A. MACHINERY.....	1,372,082	1,574,659	104,524	120,875	1,174,203	1,318,649
Engines and turbines, diesel, general purpose.....	25,640	24,554	6,039	6,055	19,000	17,947
Engines and turbines, general purpose, n.e.s.....	29,243	37,718	1,243	4,396	27,539	31,909
Electric generators and motors.....	41,409	51,337	11,029	14,125	26,905	32,294
Bearings.....	50,576	54,768	4,158	4,308	37,501	39,883
Other mechanical power transmission equipment.....	39,918	44,706	4,556	4,299	34,748	38,949

10.—Imports into Canada for Consumption from All Countries, from Britain and from the United States, by Section and Commodity, 1965 and 1966—continued

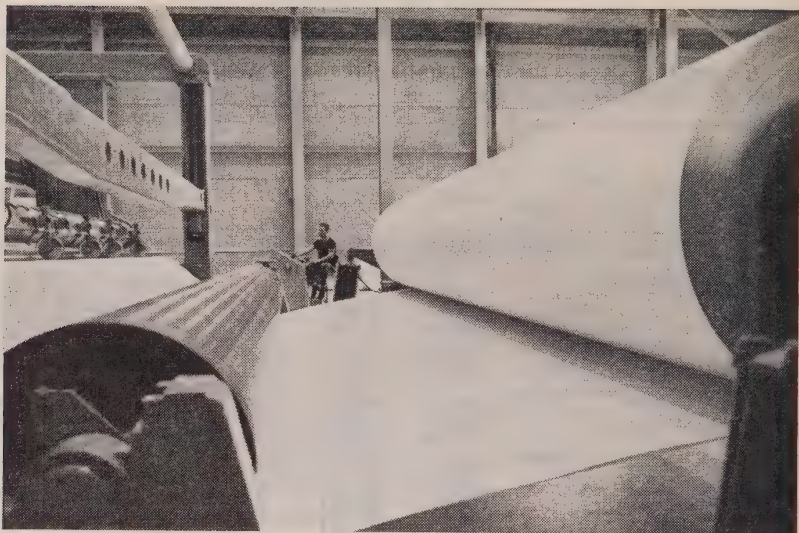
Section and Commodity	All Countries		Britain		United States	
	1965*	1966	1965*	1966	1965*	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
End Products, Inedible—con.						
A. MACHINERY—concl.						
Compressors, blowers and vacuum pumps.....	29,355	36,449	5,081	5,597	23,020	28,572
Pumps, except oil well pumps.....	19,130	21,298	1,306	1,469	16,704	18,253
Packaging machinery.....	21,652	25,231	1,080	1,147	19,445	23,265
Other general purpose industrial machinery.....	49,961	67,658	2,309	3,422	46,003	59,896
Cranes, derricks and hoists.....	36,713	41,870	935	1,518	32,208	36,965
Industrial lift trucks, powered.....	21,276	22,693	2,790	2,760	17,392	18,863
Other materials handling machinery, equipment.....	26,567	32,218	1,804	2,275	22,632	25,895
Drilling machinery and drill bits.....	41,693	42,947	751	781	39,111	39,708
Power shovels.....	27,363	25,765	123	153	26,572	24,572
Bulldozing and similar equipment.....	33,300	37,742	700	3,230	32,292	34,214
Front end loaders.....	42,227	45,596	444	907	41,724	44,333
Other excavating machinery.....	28,188	34,812	213	245	27,658	28,654
Mining, oil and gas machinery.....	36,421	47,029	2,790	4,478	31,462	36,638
Construction and maintenance machinery	39,597	40,066	1,331	1,613	36,861	36,880
Machine tools, metalworking.....	91,573	97,649	9,758	11,916	68,539	68,279
Welding apparatus and equipment.....	16,261	14,971	526	611	15,001	13,827
Rolling mill machinery.....	18,876	19,347	9,351	3,672	9,260	14,426
Other metalworking machinery.....	41,033	51,931	3,496	4,240	35,034	43,125
Pulp and paper industries machinery.....	31,434	36,606	2,814	3,751	21,288	23,969
Printing presses.....	15,765	16,104	1,917	1,069	11,009	12,115
Other printing machinery and equipment	17,082	17,477	710	755	15,655	15,804
Spinning, weaving and knitting machinery	28,763	31,579	2,752	2,430	20,063	22,606
Other textile industries machinery.....	24,117	27,965	2,327	2,883	18,454	20,336
Food, beverages and tobacco machinery.	23,776	26,811	2,050	3,055	17,883	19,357
Plastics and chemical industry machinery.....	28,250	34,829	1,291	1,435	22,609	28,991
Other special industry machinery.....	40,546	51,349	2,231	4,395	31,615	39,317
Soil preparation, seeding, fertilizing machinery.....	31,188	34,109	534	811	30,083	32,814
Combine reaper-threshers.....	50,435	62,033	142	139	48,801	60,061
Other haying and harvesting machinery.	35,176	42,507	262	218	34,104	41,461
Other agricultural machinery and equipment.....	37,403	43,965	430	527	35,430	41,946
Wheel tractors, new.....	103,205	134,217	11,728	12,661	89,180	112,798
Track-laying tractors and used tractors.	27,850	19,872	186	715	27,665	19,147
Tractor engines and tractor parts.....	69,120	76,884	3,338	3,414	63,752	70,580
B. TRANSPORTATION AND COMMUNICATION EQUIPMENT.....						
Railway and street railway rolling-stock.	1,613,159	2,192,503	115,295	123,218	1,349,012	1,916,200
Convertible automobiles, soft top, new..	28,130	30,773	2,285	1,882	23,173	25,522
Closed sedans, new.....	24,048	33,526	7,132	7,336	14,927	24,955
Other passenger automobiles and chassis	196,159	348,632	35,937	32,349	102,821	270,150
Trucks, truck tractors and chassis.....	18,112	28,970	2,260	2,271	7,684	20,375
Other motor vehicles.....	29,788	69,954	419	449	28,324	68,534
Motor vehicle engines.....	37,925	51,006	1,174	2,321	27,702	37,141
Motor vehicle engine parts.....	54,927	111,749	1,235	559	51,183	105,515
Motor vehicle parts, except engines.....	80,797	91,823	1,671	1,678	77,135	88,610
Marine engines and parts.....	683,025	844,995	7,207	7,755	669,630	831,023
Ships, boats and parts, except engines...	31,091	32,702	2,549	3,080	23,278	24,640
Aircraft, complete with engines.....	19,266	39,659	2,630	14,709	9,221	13,112
Aircraft engines and parts.....	76,400	73,037	4,960	695	70,706	70,546
Aircraft parts, except engines.....	60,698	70,842	18,572	19,665	41,468	51,136
Other transportation equipment.....	69,233	83,350	7,007	7,347	61,916	75,301
Telephone and telegraph equipment.....	23,528	23,407	2,602	2,156	14,625	13,565
Television and radiosets and phonographs	25,009	29,220	4,235	5,770	17,664	20,583
Electronic tubes and semi-conductors....	29,028	41,956	278	323	13,547	23,120
Other communication and related equipment.....	31,762	47,492	2,136	2,335	25,086	41,239
	94,230	139,410	11,006	10,538	68,921	111,127
C. OTHER EQUIPMENT AND TOOLS.....						
Air conditioning and refrigeration equipment.....	712,830	861,161	37,124	41,854	598,684	724,440
Electric lighting fixtures and portable lamps.....	54,681	59,904	3,702	3,138	48,358	54,223
	26,644	32,387	481	685	21,974	27,092

10.—Imports into Canada for Consumption from All Countries, from Britain and from the United States, by Section and Commodity, 1965 and 1966—concluded

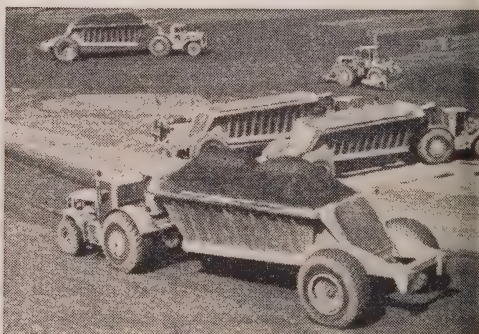
Section and Commodity	All Countries		Britain		United States	
	1965*	1966	1965*	1966	1965*	1966
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
End Products, Inedible—concl.						
C. OTHER EQUIPMENT AND TOOLS—concl.						
Switchgear and protective equipment...	20,497	19,801	1,268	1,404	15,483	14,964
Industrial control equipment.....	20,293	22,341	936	1,174	18,512	20,379
Other electric lighting, distribution equipment.....	42,107	44,327	3,483	2,474	31,916	36,033
Auxiliary electric equipment for engines.	24,566	34,444	564	489	23,474	33,338
Miscellaneous measuring, controlling instruments.....	39,148	43,371	1,246	1,645	35,979	40,093
Medical and related equipment.....	28,001	34,058	1,233	1,099	24,548	29,748
Navigation equipment.....	20,050	22,540	561	849	19,215	21,170
Other measuring, laboratory equipment, etc.....	95,169	117,493	5,812	5,846	76,706	97,152
Safety and sanitation equipment.....	20,742	25,363	1,057	1,369	19,224	22,391
Service industry equipment.....	25,721	26,823	611	521	24,219	25,573
Furniture and fixtures.....	26,993	28,569	1,042	934	20,405	22,176
Hand tools and cutlery.....	53,564	58,022	7,635	8,147	37,820	41,177
Electronic computers.....	50,510	93,495	354	2,187	44,609	83,126
Other office machines and equipment.....	59,144	78,671	2,946	5,294	42,144	48,140
Miscellaneous equipment and tools.....	105,001	119,551	4,192	4,598	94,099	107,665
D. PERSONAL AND HOUSEHOLD GOODS.....	317,841	341,401	52,122	56,378	102,112	104,377
Outerwear, except knitted.....	37,479	40,083	2,351	2,341	7,745	8,305
Outerwear, knitted.....	21,388	26,460	4,670	4,811	1,638	1,896
Other apparel and apparel accessories.....	32,376	33,085	4,762	4,455	9,070	8,790
Footwear.....	27,067	34,417	5,055	5,634	1,963	2,593
Watches, clocks, jewellery and silverware	26,508	28,277	4,064	4,582	7,283	8,043
Sporting and recreation equipment.....	18,624	19,305	1,818	2,022	9,932	9,452
Games, toys and children's vehicles.....	23,905	23,341	3,014	3,136	10,162	9,510
House furnishings.....	40,050	41,435	6,468	7,005	14,923	15,599
Kitchen utensils, cutlery and tableware.....	43,787	48,065	15,268	18,164	15,625	15,599
Other personal and household goods.....	46,659	46,934	4,652	4,228	23,770	24,590
E. MISCELLANEOUS END PRODUCTS.....	460,368	513,685	33,873	37,814	354,289	387,978
Medical and pharmaceutical products.....	39,390	44,387	6,261	6,887	21,644	24,900
Medical, ophthalmic, orthopaedic supplies.....	20,914	21,648	790	766	16,593	16,774
Newspapers, magazines and periodicals..	50,000	50,939	892	913	46,350	47,487
Books and pamphlets.....	68,597	77,905	6,554	7,195	55,167	62,715
Other printed matter.....	33,022	32,214	1,459	1,324	29,929	29,117
Stationers' and office supplies.....	23,574	24,870	2,741	2,908	17,249	17,844
Unexposed photographic film and plates.	29,627	33,364	3,576	4,906	21,042	23,317
Other photographic goods.....	59,051	68,732	546	994	47,727	56,052
Containers and closures.....	52,171	58,701	1,240	1,572	47,964	54,036
Other end products, inedible.....	84,022	100,925	9,515	10,349	50,623	55,736
Special Transactions—Trade.....	266,479	322,031	9,047	13,486	240,744	281,424
Shipments valued at less than \$200 each.	213,765	257,301	6,754	10,139	197,104	227,234
Other special transactions—trade.....	52,715	64,729	2,293	3,347	43,641	54,190
Totals, Imports.....	8,633,148	9,866,439	619,058	644,741	6,044,831	7,135,611

Section 5.—Trade by Section and Stage of Fabrication

This Section contains a series of statistics covering trade by stage of fabrication, based on the new commodity classification (see p. 955). The Section totals given in Tables 11 and 12 for the period from 1947 were compiled by converting statistics tabulated on the old classification to the new framework; old classes or fragments of classes were converted to appropriate new classes and changes in content, descriptions or codes of former classes were taken into account as much as possible, but the results for 1957 and previous years are subject to some limitations.



Fabricated materials, among which newsprint ranks first, still account for about two fifths of Canada's exports but there has been a recent upsurge in the movement of end-products from Canada to other countries, ranging all the way from motor vehicles and aircraft to wearing apparel.



Well over one half of the imports into Canada are end-products and prominent among these are heavy machinery, equipment and tools required in the construction, development and operation of Canadian industries.

To classify exports and imports by Stage of Fabrication, that is, within the categories of Crude Materials, Fabricated Materials and End Products, requires a secondary classification of the commodities in certain Sections. Live Animals (Sect. I), being a natural product, is considered as crude materials; Food, Feed, Beverages and Tobacco (Sect. II) is allocated as follows: Crude Materials includes natural products not further processed than cleaned or prepared for shipment; Fabricated Materials includes commodities which are further processed and are used in processing industries rather than for direct human consumption, and also all commercial stock feeds; End Products includes commodities which are further processed and are mainly used directly for human consumption, and also prepared pet feeds. Sects. III, IV and V are clearly defined in the Standard Commodity Classification. Sect. VI contains relatively few classes; these have been pro-rated as necessary for both exports and imports according to studies undertaken over a number of years.

Exports.—An analysis of the figures for 1947-66 shows that the export totals followed an almost constantly upward trend, advancing 3.7 times over the period, with the most pronounced gains being made in 1959-66. Totals for all Sections were several times higher in 1966 than in 1947: Live Animals moved up 3.9 times; Food, Feed, Beverages and Tobacco 2.1 times; Crude Materials, Inedible 8.8 times; Fabricated Materials, Inedible 3.2 times; End Products, Inedible 5.7 times; and Special Transactions—Trade 4.1 times. All Sections except Live Animals recorded considerable increases in 1966 over 1965; End Products, Inedible advanced 63.0 p.c.; Food, Feed, Beverages and Tobacco 15.8 p.c.; Crude Materials, Inedible 10.4 p.c.; and Fabricated Materials, Inedible 7.6 p.c. Live Animals exports, which fluctuate somewhat year by year, showed a slight drop in 1966 compared with the previous year. Fabricated Materials, Inedible account for the greatest proportion of the exports, averaging about 48 p.c. over the period and for 39.8 p.c. in 1966; End Products, Inedible, which accounted for 13.6 p.c. of the exports in 1947 and lost ground for a number of years, recovered its relative importance in 1964 and in 1966 accounted for 21.0 p.c. of the total exports. Special Transactions—Trade remained unimportant in 1966 at 0.2 p.c.

Analysis of exports by stage of fabrication shows that total exports of Crude Materials were 5.0 times higher in 1966 than in 1947, Fabricated Materials were 2.9 times higher and End Products were 5.8 times higher. Crude Materials in 1966 accounted for 33.7 p.c. of the total, Fabricated Materials for 41.9 p.c. and End Products for 24.4 p.c.; in 1947 the percentages were 24.5 p.c., 54.0 p.c. and 21.5 p.c., respectively.

Imports.—The total value of imports advanced 3.9 times during the period 1947-66 but, except for 1965, yearly increases since 1962 were lower than those shown by exports. In 1966, imports of Food, Feed, Beverages and Tobacco were 2.8 times higher than in 1947; Crude Materials, Inedible were 1.9 times higher; Fabricated Materials, Inedible 3.1 times higher; and End Products, Inedible 5.7 times higher. The relative importance of Food, Feed, Beverages and Tobacco dropped from 11.3 p.c. in 1947 to 8.0 p.c. in 1966; of Fabricated Materials, Inedible from 28.6 p.c. to 22.6 p.c.; and of Crude Materials, Inedible from 20.9 p.c. to 10.4 p.c. On the other hand, the proportion accounted for by End Products, Inedible increased from 37.5 p.c. to 55.6 p.c. Live Animals and Special Transactions—Trade form a comparatively small portion of the total.

In the stage-of-fabrication analysis, although imports of Crude Materials were 2.2 times higher in 1966 than in 1947, they accounted for a decreasing proportion of total imports, dropping from a peak of 30.4 p.c. in 1950 to an average of 18.7 in 1957-66; the proportion in 1966 was 15.2 p.c. Imports of Fabricated Materials were 3.0 times higher in 1966 than in 1947, the more marked increases appearing since 1961; in 1966 this group accounted for 24.8 p.c. of the total compared with 32.4 p.c. in 1947. On the other hand, imports of End Products were 5.8 times higher in 1966 than in 1947 and their relative importance increased during the period from 40.4 p.c. to 60.0 p.c.

11.—Domestic Exports by Section and Stage of Fabrication, 1947-66

Year	Sect. I Live Animals	Sect. II Food, Feed, Beverages and Tobacco				Sect. III Crude Materials, Inedible	Sect. IV Fabricated Materials, Inedible	Sect. V End Products, Inedible
		Crude Materials	Fabricated Materials	End Products	Total			
ALL COUNTRIES								
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1947.....	20,083	431,802	240,076	214,329	886,207	221,976	1,239,004	375,028
1948.....	87,877	462,291	179,126	198,483	839,901	308,821	1,391,274	414,708
1949.....	68,903	624,451	135,622	150,567	910,640	310,326	1,309,755	366,917
1950.....	84,592	510,900	134,700	169,703	815,302	332,917	1,594,641	264,926
1951.....	65,304	724,844	167,782	160,012	1,052,638	430,885	1,972,438	357,615
1952.....	5,974	989,900	181,091	147,820	1,318,812	467,143	2,033,701	439,048
1953.....	17,884	913,797	157,674	171,432	1,242,903	476,429	1,949,365	396,694
1954.....	19,407	630,031	149,058	183,582	962,672	502,040	2,030,945	331,972
1955.....	15,645	560,297	152,112	173,088	885,498	685,912	2,363,743	290,384
1956.....	13,401	750,432	152,507	180,528	1,083,467	872,967	2,441,679	325,609
1957.....	53,999	603,474	141,317	166,661	911,453	1,025,398	2,406,062	369,271
1958.....	101,534	699,896	140,904	191,450	1,032,250	963,137	2,466,818	434,500
1959.....	55,790	660,221	159,886	199,584	1,019,691	1,086,994	2,461,089	386,658
1960.....	41,038	614,277	141,402	191,283	946,962	1,114,543	2,729,389	409,683
1961.....	66,901	865,451	138,688	193,664	1,197,803	1,195,442	2,777,345	505,591
1962.....	68,054	808,022	151,225	212,888	1,172,135	1,361,595	2,907,126	654,763
1963.....	41,971	1,012,475	157,532	249,850	1,419,857	1,425,951	3,106,898	779,138
1964.....	34,514	1,298,519	210,942	296,426	1,805,886	1,616,145	3,502,496	1,109,006
1965.....	79,133	1,142,518	194,010	293,290	1,629,818	1,763,701	3,728,769	1,300,145
1966.....	78,002	1,362,808	204,236	321,247	1,888,293	1,947,625	4,012,068	2,119,324
BRITAIN								
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1947.....	217	268,610	90,241	91,585	450,437	40,832	234,564	20,548
1948.....	226	234,056	76,524	83,279	393,859	46,178	228,256	14,670
1949.....	26	303,724	52,100	47,314	403,138	57,664	212,312	28,846
1950.....	7	185,672	43,858	45,189	274,719	47,211	140,023	5,850
1951.....	3	183,278	44,868	18,677	246,823	81,918	292,464	8,815
1952.....	12	241,238	39,428	2,327	282,993	95,694	356,227	9,424
1953.....	20	258,931	42,691	10,254	311,876	85,297	254,121	11,448
1954.....	18	184,747	36,323	14,045	235,115	86,914	324,446	4,476
1955.....	11	221,747	37,384	10,320	269,451	103,439	389,774	4,931
1956.....	22	232,322	46,878	13,784	292,934	130,636	380,952	6,558
1957.....	35	169,330	40,515	10,499	220,344	138,124	354,896	7,417
1958.....	275	218,328	33,790	29,672	281,790	139,653	330,172	19,611
1959.....	255	209,622	45,016	32,788	287,425	152,578	326,776	18,656
1960.....	210	195,553	42,975	19,718	258,246	178,936	460,357	17,338
1961.....	184	179,656	39,273	19,312	238,240	204,539	440,073	26,069
1962.....	105	191,434	51,235	27,612	270,282	172,050	435,774	30,624
1963.....	46	213,133	52,432	32,198	297,762	216,316	457,459	34,555
1964.....	42	207,202	54,186	50,334	311,721	236,357	602,570	48,586
1965.....	79	207,336	60,108	34,861	302,305	256,260	567,484	47,693
1966.....	37	195,683	53,446	37,543	286,672	231,552	547,701	56,058
UNITED STATES								
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1947.....	18,184	54,436	9,004	35,174	98,615	148,067	706,775	53,553
1948.....	85,156	137,550	15,876	47,995	201,420	208,311	901,061	96,541
1949.....	68,009	164,279	20,292	57,023	241,594	189,311	898,347	101,020
1950.....	83,888	185,424	26,034	75,437	286,896	222,462	1,311,568	105,726
1951.....	64,724	264,519	39,421	93,487	397,428	271,931	1,404,542	142,185
1952.....	5,554	246,428	46,125	99,481	392,034	277,607	1,426,767	187,297
1953.....	17,197	234,968	29,193	119,723	383,884	286,796	1,512,748	201,236
1954.....	18,510	176,121	29,482	120,485	326,087	296,559	1,471,992	184,101
1955.....	14,129	127,089	29,419	117,162	273,670	425,238	1,678,919	143,481
1956.....	11,020	154,550	31,843	125,437	311,829	556,047	1,755,733	151,984
1957.....	52,696	155,763	33,425	117,007	306,195	655,206	1,660,071	156,894
1958.....	99,919	161,693	31,935	124,204	317,832	652,435	1,554,720	178,454
1959.....	54,500	129,419	32,957	127,901	290,277	730,629	1,768,038	235,211
1960.....	39,121	125,188	32,860	129,923	287,971	676,879	1,698,231	220,700
1961.....	61,060	130,025	33,794	134,302	298,121	694,914	1,760,533	283,707
1962.....	64,422	121,930	42,366	141,485	305,780	884,041	1,968,046	375,905
1963.....	38,312	137,654	40,756	154,462	332,872	881,401	2,069,229	425,436
1964.....	30,115	144,645	49,163	168,161	361,969	978,637	2,237,248	642,975
1965.....	72,008	164,498	48,203	196,216	408,917	1,012,093	2,481,658	847,472
1966.....	68,951	154,520	51,680	223,166	429,366	1,122,691	2,760,777	1,625,975

11.—Domestic Exports by Section and Stage of Fabrication, 1947-66

Sect. VI Special Transactions—Trade				Total Domestic Exports	Recapitulation Stage of Fabrication			Year
Crude Materials	Fabricated Materials	End Products	Total		Crude Materials	Fabricated Materials	End Products	
ALL COUNTRIES								
\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
300	5,472	361	6,133	2,748,431	674,161	1,484,552	589,718	.....1947
304	3,251	333	3,888	3,046,469	859,293	1,573,651	613,524	.....1948
141	2,120	148	2,409	2,968,948	1,003,821	1,447,497	517,632	.....1949
48	1,890	50	1,988	3,094,365	928,457	1,731,231	434,679	.....1950
36	3,200	37	3,273	3,882,153	1,221,069	2,143,420	517,664	.....1951
32	4,699	33	4,763	4,269,441	1,463,049	2,219,491	586,901	.....1952
25	2,863	26	2,914	4,086,190	1,408,135	2,109,902	568,152	.....1953
25	2,194	26	2,246	3,849,281	1,151,503	2,182,197	515,580	.....1954
27	3,621	1,799	5,447	4,246,630	1,261,881	2,519,476	465,271	.....1955
32	3,742	4,730	8,504	4,745,626	1,636,832	2,597,928	510,867	.....1956
1,850	3,225	7,540	12,616	4,778,799	1,684,721	2,550,604	543,472	.....1957
1,858	3,076	8,263	13,197	4,791,436	1,766,425	2,390,798	634,213	.....1958
1,981	2,832	6,638	11,450	5,021,672	1,804,986	2,623,807	592,880	.....1959
1,937	3,471	8,552	13,960	5,255,575	1,771,795	2,874,262	609,518	.....1960
4,337	403	7,164	11,903	5,754,986	2,132,131	2,916,436	706,419	.....1961
3,991	340	10,518	14,849	6,178,523	2,241,662	3,058,691	878,169	.....1962
9,771	748	14,196	24,714	6,798,529	2,490,168	3,265,178	1,043,184	.....1963
10,090	716	15,365	26,171	8,094,219	2,959,268	3,714,154	1,420,797	.....1964
9,935	720	12,857	23,512	8,525,078	2,995,287	3,923,499	1,606,292	.....1965
10,068	735	14,514	25,316	10,070,627	3,398,503	4,217,039	2,455,085	.....1966
BRITAIN								
\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
8	103	9	120	746,718	309,667	324,908	112,142	.....1947
—	61	—	61	683,249	280,460	304,841	97,949	.....1948
—	88	—	88	702,074	361,414	264,500	76,160	.....1949
—	85	—	85	467,896	232,890	183,966	51,039	.....1950
—	100	—	100	630,124	265,199	337,432	27,492	.....1951
—	110	—	110	744,461	336,944	395,765	11,751	.....1952
—	22	—	22	662,785	344,248	296,834	21,702	.....1953
—	63	—	63	651,033	271,679	360,832	18,521	.....1954
—	34	—	34	767,642	325,197	427,192	15,251	.....1955
—	11	—	11	811,113	362,980	427,841	20,292	.....1956
28	25	29	82	720,898	307,517	395,436	17,945	.....1957
26	22	27	75	771,576	358,282	363,984	49,310	.....1958
33	44	34	111	785,802	362,488	371,836	51,478	.....1959
42	80	81	203	915,290	374,741	503,412	37,137	.....1960
97	7	135	240	909,344	384,476	479,353	45,516	.....1961
101	7	97	205	909,041	363,690	487,016	58,333	.....1962
256	17	426	699	1,006,838	429,751	509,908	67,179	.....1963
287	28	188	503	1,199,779	443,888	656,784	99,108	.....1964
284	20	183	487	1,174,309	463,959	627,612	82,737	.....1965
281	18	255	554	1,122,574	427,553	601,165	93,856	.....1966
UNITED STATES								
\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
69	359	111	539	1,025,732	220,756	716,138	88,838	.....1947
15	401	23	439	1,492,929	431,032	917,338	144,559	.....1948
36	390	38	464	1,498,745	421,635	919,029	158,081	.....1949
21	471	22	514	2,011,052	491,795	1,338,073	181,185	.....1950
11	473	12	496	2,281,306	601,185	1,444,436	235,684	.....1951
11	472	12	495	2,289,753	529,600	1,473,364	286,790	.....1952
10	514	11	535	2,402,397	538,971	1,542,455	320,970	.....1953
8	469	8	486	2,297,734	491,198	1,501,943	304,594	.....1954
10	481	10	500	2,535,938	566,466	1,708,819	260,653	.....1955
10	649	999	1,657	2,788,270	721,627	1,788,225	278,420	.....1956
1,482	906	3,115	5,503	2,836,565	865,147	1,694,402	277,016	.....1957
1,508	922	2,278	4,708	2,808,067	915,555	1,587,577	304,936	.....1958
1,617	1,094	1,784	4,495	3,083,151	916,165	1,802,089	364,896	.....1959
1,580	1,097	6,643	9,270	2,932,171	842,718	1,732,188	357,266	.....1960
3,519	97	5,225	8,841	3,107,176	889,518	1,794,424	423,234	.....1961
3,155	277	6,812	10,243	3,608,439	1,073,548	2,010,689	524,202	.....1962
7,801	571	10,758	19,130	3,766,380	1,065,168	2,110,556	590,656	.....1963
7,935	550	11,631	20,116	4,271,059	1,161,332	2,289,961	822,767	.....1964
7,802	574	9,931	18,307	4,840,456	1,256,401	2,530,435	1,053,619	.....1965
7,966	594	11,402	19,962	6,027,722	1,354,128	2,813,051	1,860,643	.....1966

12.—Imports by Section and Stage of Fabrication, 1947-66

Year	Sect. I Live Animals	Sect. II Food, Feed, Beverages and Tobacco				Sect. III Crude Materials, Inedible	Sect. IV Fabricated Materials, Inedible	Sect. V End Products, Inedible
		Crude Materials	Fabricated Materials	End Products	Total			
ALL COUNTRIES								
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1947.....	3,431	151,162	85,622	49,590	286,374	532,347	726,893	953,659
1948.....	3,399	136,009	91,012	51,660	278,681	685,117	741,106	879,520
1949.....	2,997	153,949	97,236	61,289	312,474	613,114	750,186	1,008,899
1950.....	2,307	200,920	114,570	66,513	382,003	744,771	825,408	1,146,341
1951.....	3,222	217,119	115,900	90,005	423,025	904,510	1,108,837	1,515,096
1952.....	3,593	215,351	98,051	90,071	403,474	711,674	1,036,545	1,690,063
1953.....	3,664	220,239	89,980	94,641	404,860	665,652	1,110,339	2,005,835
1954.....	3,800	253,481	99,736	100,289	453,507	600,823	1,012,813	1,818,972
1955.....	4,689	249,956	104,932	108,567	463,454	699,291	1,187,757	2,150,115
1956.....	5,375	279,318	114,798	129,540	523,656	825,787	1,528,130	2,590,053
1957.....	5,341	271,622	136,983	147,975	556,579	830,162	1,505,796	2,501,191
1958.....	5,955	280,722	123,986	156,004	560,712	690,140	1,313,053	2,402,125
1959.....	13,175	279,835	129,516	154,512	563,863	728,238	1,392,791	2,731,352
1960.....	7,426	298,651	120,476	155,519	574,647	744,993	1,343,775	2,718,262
1961.....	7,025	327,268	129,473	164,785	621,526	763,536	1,395,779	2,879,561
1962.....	7,561	355,310	143,314	158,139	656,763	826,523	1,487,419	3,152,226
1963.....	9,673	377,592	218,595	174,291	770,477	897,296	1,570,293	3,173,449
1964.....	17,124	395,475	187,316	194,806	777,596	960,662	1,812,988	3,701,202
1965 ^r	10,801	404,681	148,532	205,677	758,890	1,006,274	2,114,423	4,476,279
1966.....	12,910	422,087	144,959	224,695	791,741	1,023,212	2,233,137	5,483,408
BRITAIN								
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1947.....	234	415	693	6,449	7,557	13,663	84,315	75,430
1948.....	265	357	1,768	10,756	12,881	30,351	134,579	106,160
1949.....	222	394	2,687	15,566	18,647	27,081	122,165	131,474
1950.....	260	1,901	4,834	15,400	22,135	40,607	143,958	191,162
1951.....	327	808	2,370	16,215	19,393	53,681	165,956	172,332
1952.....	248	1,116	4,014	16,511	21,641	24,006	131,690	168,694
1953.....	479	3,290	3,511	17,512	24,313	31,001	161,286	223,956
1954.....	286	4,780	3,632	17,081	25,493	23,518	141,962	185,898
1955.....	260	2,736	4,860	17,760	25,356	29,351	146,740	187,327
1956.....	360	2,548	5,260	17,871	25,679	28,750	196,514	219,421
1957.....	584	3,037	5,988	19,775	28,800	28,078	197,403	246,574
1958.....	470	3,897	6,765	20,074	30,736	24,040	169,043	288,543
1959.....	455	5,630	7,590	20,259	33,479	25,640	177,662	345,261
1960.....	198	4,283	8,338	20,226	32,848	25,236	167,531	357,012
1961.....	142	4,648	8,117	20,975	33,740	28,139	160,503	388,233
1962.....	516	4,138	7,441	20,316	31,894	31,428	176,785	316,929
1963.....	474	5,327	6,667	19,600	31,595	36,401	168,881	284,857
1964.....	432	4,425	3,161	27,230	34,817	37,304	180,331	313,349
1965 ^r	125	8,189	3,220	28,911	40,320	36,995	189,933	342,638
1966.....	126	8,215	5,493	30,479	44,187	31,622	175,186	380,135
UNITED STATES								
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1947.....	3,178	83,596	25,828	25,747	135,170	371,694	554,679	851,470
1948.....	3,092	51,289	12,931	10,565	74,784	425,719	526,855	749,065
1949.....	2,757	63,425	17,895	21,096	102,416	383,150	560,106	845,094
1950.....	2,020	83,983	18,224	21,895	124,102	457,172	574,219	912,237
1951.....	2,859	100,452	23,113	33,113	156,677	487,395	773,655	1,287,352
1952.....	3,320	103,320	20,873	40,408	164,601	406,743	787,222	1,462,473
1953.....	3,124	99,745	23,322	47,026	170,093	358,721	829,921	1,703,389
1954.....	3,485	118,581	28,343	50,393	197,317	309,877	747,534	1,544,438
1955.....	4,325	122,434	29,572	55,031	207,038	339,248	874,934	1,851,874
1956.....	4,772	144,140	37,136	70,234	251,510	401,715	1,096,282	2,214,930
1957.....	4,422	139,380	36,087	81,133	256,600	397,193	1,095,931	2,071,619
1958.....	5,190	142,044	34,458	86,233	262,735	291,503	942,761	1,893,424
1959.....	12,300	147,892	41,304	83,876	273,072	300,646	955,179	2,103,953
1960.....	6,838	163,038	41,111	85,307	289,456	325,818	922,257	2,066,485
1961.....	6,493	187,383	45,536	87,214	320,133	335,902	943,086	2,178,165
1962.....	6,689	208,465	52,730	79,858	341,053	360,125	980,713	2,499,281
1963.....	8,888	218,332	53,972	85,653	357,958	383,907	1,036,299	2,534,050
1964.....	16,365	217,033	53,976	85,062	356,071	443,025	1,197,118	2,954,801
1965 ^r	10,246	223,372	60,732	90,423	374,527	490,848	1,350,165	3,578,300
1966.....	12,241	242,739	64,059	95,301	402,097	506,439	1,481,763	4,451,648

12.—Imports by Section and Stage of Fabrication, 1947-66

Sect. VI Special Transactions—Trade				Total Imports	Recapitulation Stage of Fabrication			Year
Crude Materials	Fabricated Materials	End Products	Total		Crude Materials	Fabricated Materials	End Products	
ALL COUNTRIES								
\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
4,100	9,661	24,501	38,262	2,540,966	691,040	822,176	1,027,750	.....1947
2,429	6,561	21,445	30,436	2,618,258	826,954	838,679	952,625	.....1948
2,449	8,329	15,577	26,354	2,714,025	772,509	855,751	1,085,765	.....1949
2,198	8,617	13,528	24,343	3,125,172	950,196	948,595	1,226,382	.....1950
3,826	13,661	32,763	50,249	4,004,939	1,128,677	1,238,398	1,637,864	.....1951
4,988	16,505	49,576	71,069	3,916,418	935,606	1,151,101	1,829,710	.....1952
5,039	17,457	34,962	57,458	4,247,808	894,594	1,217,776	2,135,438	.....1953
6,397	19,776	51,313	77,486	3,967,401	864,501	1,132,325	1,970,574	.....1954
6,670	19,231	36,529	62,431	4,567,754	960,606	1,311,938	2,295,211	.....1955
7,533	26,668	39,750	73,951	5,546,952	1,118,013	1,669,596	2,759,343	.....1956
7,704	26,467	40,106	74,277	5,473,346	1,114,829	1,669,246	2,689,272	.....1957
8,348	26,864	43,297	78,508	5,050,492	985,165	1,463,903	2,601,426	.....1958
8,196	28,862	42,444	79,501	5,508,921	1,029,444	1,551,169	2,928,308	.....1959
10,322	30,326	52,945	93,953	5,482,695	1,061,392	1,494,577	2,926,726	.....1960
11,430	31,490	58,231	101,152	5,768,578	1,109,259	1,556,742	3,102,577	.....1961
15,727	31,025	80,531	127,284	6,257,776	1,205,121	1,661,758	3,390,896	.....1962
17,301	31,195	88,525	137,021	6,558,209	1,301,862	1,820,083	3,436,265	.....1963
27,222	50,816	140,097	218,135	7,487,707	1,400,483	2,051,120	4,036,105	.....1964
33,118	62,293	171,068	266,479	8,633,148	1,454,874	2,325,248	4,853,025	.....1965*
40,836	70,543	210,652	322,031	9,866,439	1,499,045	2,448,639	5,918,755	.....1966
BRITAIN								
\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
142	931	1,933	3,006	184,205	14,454	85,939	83,812	.....1947
141	1,498	7,659	9,298	293,533	31,114	137,845	124,575	.....1948
90	1,658	1,083	2,831	302,420	27,787	126,510	148,123	.....1949
72	2,055	544	2,671	400,793	42,840	150,847	207,106	.....1950
87	2,704	715	3,506	415,194	54,903	171,030	189,262	.....1951
106	2,723	2,467	5,296	351,576	25,476	138,427	187,672	.....1952
162	3,129	1,115	4,406	445,441	34,932	167,926	242,583	.....1953
254	2,845	1,973	5,073	382,229	28,838	148,439	204,952	.....1954
173	2,881	1,031	4,084	393,117	32,520	154,481	206,118	.....1955
203	4,359	1,085	5,647	476,371	31,861	206,133	238,377	.....1956
219	4,519	1,142	5,879	507,319	31,918	207,910	267,491	.....1957
247	4,146	1,279	5,673	518,505	28,654	179,954	309,896	.....1958
267	4,448	1,362	6,077	588,573	31,992	189,700	366,882	.....1959
295	4,316	1,497	6,107	588,932	30,012	180,185	378,735	.....1960
489	4,506	2,470	7,464	618,221	33,418	173,126	411,678	.....1961
603	1,834	3,073	5,510	563,062	36,685	186,060	340,318	.....1962
582	1,054	2,955	4,591	526,800	42,784	176,602	307,412	.....1963
978	1,772	5,013	7,762	573,995	43,139	185,264	345,592	.....1964
1,137	2,064	5,846	9,047	619,058	46,446	195,217	377,395	.....1965*
1,714	2,964	8,809	13,486	644,741	41,677	183,643	419,423	.....1966
UNITED STATES								
\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	
3,818	8,034	21,872	33,723	1,949,914	462,286	588,541	899,089	.....1947
2,063	4,277	12,636	18,975	1,798,490	482,163	544,063	772,266	.....1948
2,236	5,582	13,885	21,704	1,915,227	451,568	583,583	880,075	.....1949
2,030	5,270	12,482	19,782	2,089,531	545,205	597,713	946,614	.....1950
3,650	8,904	31,594	44,149	2,752,087	594,356	805,672	1,352,059	.....1951
4,780	11,858	46,595	63,233	2,887,593	518,163	819,953	1,549,476	.....1952
4,780	11,904	33,272	49,956	3,115,205	466,370	865,147	1,783,687	.....1953
5,938	14,406	48,283	68,628	2,871,279	437,881	790,283	1,643,114	.....1954
6,276	13,081	34,367	53,725	3,331,143	472,283	917,587	1,941,272	.....1955
7,133	17,444	37,608	62,185	4,031,395	557,760	1,150,862	2,322,772	.....1956
7,256	16,579	37,791	61,626	3,887,391	548,251	1,148,597	2,190,543	.....1957
7,790	16,313	40,433	64,535	3,460,147	446,527	993,532	2,020,090	.....1958
7,576	17,043	39,296	63,915	3,709,065	468,414	1,013,526	2,227,125	.....1959
9,410	18,000	48,361	75,771	3,686,625	505,104	981,368	2,200,153	.....1960
10,178	18,048	51,963	80,189	3,863,968	539,956	1,006,670	2,317,342	.....1961
14,217	24,540	72,922	111,678	4,299,539	589,496	1,057,983	2,652,061	.....1962
15,813	26,606	81,035	123,454	4,444,556	626,940	1,116,877	2,700,738	.....1963
24,764	44,549	127,593	196,905	5,164,285	701,187	1,295,643	3,167,456	.....1964
29,920	56,097	154,728	240,744	6,044,831	754,386	1,466,994	3,823,451	.....1965*
35,784	60,966	184,674	281,424	7,135,611	797,203	1,606,788	4,731,623	.....1966

PART III.—THE GOVERNMENT AND FOREIGN TRADE

Section 1.—Federal Foreign Trade Services*

Foreign trade contributes substantially to the welfare and prosperity of Canadians, largely because the productive capacity of Canada is greater than the ability of its population to consume the output of farms, factories, forests, fisheries and mines. Every effort is made, therefore, to establish and maintain close commercial relations with other countries whose markets are essential to the Canadian economy. It is appreciated, however, that two-way trade should be encouraged so that goods and services may be accepted in partial payment for the products Canada is in a position to export. Furthermore, many commodities not indigenous to this country must be imported. Some of these are required for industrial processes and others may be classed as consumer goods necessary for the maintenance of the Canadian standard of living.

Although numerous private firms have established connections in other countries that enable them to maintain a steady flow of goods in either direction, others require the assistance of government agencies in finding markets or sources of supply. Import and export controls imposed by many countries for a variety of reasons, together with foreign exchange difficulties, present problems that no single firm or even an association of manufacturers, exporters or importers can solve without assistance from government representatives. The federal Department of Trade and Commerce, the primary function of which is the promotion of external trade, makes available to business men a wide variety of services to assist them in selling their products abroad. These services are provided by the Department's head office in Ottawa, six regional offices in Canada, and a corps of Trade Commissioners stationed around the world.

Services available from the various branches, divisions and agencies of the Department of Trade and Commerce are described below. The work of these entities is interrelated, each operating in its own field but working closely with the others to effect the over-all objective of trade promotion.

Trade Commissioner Service.—The Trade Commissioner Service, as the overseas arm of the Department, is actively engaged in the promotion of Canadian trade and the protection of Canada's commercial interests; 70 offices are maintained in 49 countries.

Every effort is made by Trade Commissioners to bring Canadian exporters and prospective buyers together. On their own initiative, and in response to requests from the Department and Canadian business men, they study potential markets for specific Canadian commodities and services. Economic reports provide background information necessary to the formulation of Departmental trade policy. Reports are provided on the demand in the country concerned, prices, competition, trade and exchange regulations, tariffs, shipping and packaging requirements, credit terms, channels of distribution, labelling regulations, etc. Inquiries from local business men for goods obtainable from Canada are forwarded to the Department in Ottawa, or directly to Canadian firms in a position to supply the products required.

The supervision of Canadian exhibits at overseas trade fairs and the provision of assistance to participating Canadian firms is an important function of many offices. Trade Commissioners make local arrangements for and travel with Canadian trade missions visiting overseas markets. They also seek sources of supply for a wide variety of goods on behalf of Canadian importers.

In developing trade opportunities, Canada's Trade Commissioners travel extensively in their territories, visit leading industrial and commercial centres and call on government officials, business men, trade associations and municipal authorities. They establish social contacts with commercial interests, thereby developing goodwill for Canada and Canadian

* Prepared in the several branches and agencies concerned, and collated in the Trade Publicity Branch, Department of Trade and Commerce, Ottawa.

products, while creating connections for Canadian exporters and facilitating the collection of trade information. They return to Canada at periodic intervals and make tours of Canadian industrial and commercial centres. Such direct contacts enable them to discuss specific problems with business men and bring into focus the Canadian commercial scene.

In countries where Canada has a diplomatic mission, the Canadian trade office is the commercial division and the Trade Commissioner has the rank of Minister (Commercial), Minister-Counsellor (Economic), Commercial Counsellor, Commercial Secretary or Assistant Commercial Secretary. When attached to a consulate, he carries the title of Deputy Consul General (Commercial), Consul (Commercial), or Vice-Consul (Commercial), according to his rank, in addition to that of Trade Commissioner or Assistant Trade Commissioner. He may also be the Consul General, in charge of the office. Where trade offices are detached and do not form part of a diplomatic mission, the Trade Commissioner may also be required to undertake consular, immigration and other duties as the sole representative of Canada.

CANADIAN FOREIGN TRADE OFFICES ABROAD, AS AT JAN. 1, 1968

ARGENTINA.—Commercial Counsellor, Canadian Embassy, Casilla de Correo 3898, Suipacha 1111, Buenos Aires. Territory includes Paraguay.

AUSTRALIA.—

Sydney: Commercial Counsellor for Canada, P.O. Box 3952, A.M.P. Building, Circular Quay, Sydney. Territory includes States of New South Wales and Queensland, Capital Territory, Northern Territory, and Dependencies.

Melbourne: Commercial Counsellor for Canada, Mobil Centre, 2 City Rd., South Melbourne, 3205, Victoria. Territory includes States of Victoria, South Australia, Western Australia and Tasmania.

Canberra: Commercial Counsellor, Office of the High Commissioner for Canada, Commonwealth Ave., Yarralumla 2600, Canberra ACT.

AUSTRIA.—Commercial Secretary, Canadian Embassy, P.O. Box 190, Obere Donaustrasse 49/51, 1013, Vienna. Territory includes Albania, Bulgaria, Czechoslovakia, Hungary and Romania.

BELGIUM.—Commercial Counsellor, Canadian Embassy, 35 rue de la Science, Brussels 4. Territory includes European Economic Community, European Atomic Energy Community and European Coal and Steel Community. Other countries: Luxembourg.

BRAZIL.—

Rio de Janeiro: Commercial Counsellor, Canadian Embassy, Caixa Postal 2164-ZC-00, Edificio Metropol, Av. Presidente Wilson 165, Rio de Janeiro.

São Paulo: Consul and Trade Commissioner, Canadian Consulate, Caixa Postal 6034, Edificio Scarpa, Av. Paulista, 1765, 9 andar, São Paulo.

BRITAIN.—

London: Minister (Commercial), Office of the High Commissioner for Canada, One Grosvenor Square, London W.1.

Liverpool: Canadian Government Trade Commissioner, Martins Bank Bldg., Water Street, Liverpool. Territory includes Midlands and North England.

Glasgow: Canadian Government Trade Commissioner, Cornhill House, 144 West George St., Glasgow C.2, Scotland. Territory includes Scotland.

Belfast: Canadian Government Trade Commissioner, 15-17 Chichester St., Belfast 1, Northern Ireland. Territory includes Northern Ireland.

CEYLON.—Commercial Division, Office of the High Commissioner for Canada, P.O. Box 1006, 6 Gregory's Road, Cinnamon Gardens, Colombo.

CHILE.—Commercial Counsellor, Canadian Embassy, Casilla 771, Agustinas 1225, Santiago.

COLOMBIA.—Commercial Secretary, Canadian Embassy, Apartado Aereo 8582, Edificio Banco de Los Andes, Carrera 10, No. 16-92, Bogota. Territory includes Ecuador.

CUBA.—Commercial Division, Canadian Embassy, Gaveta 6125, Calle 30 No. 518 esquina 7ª Avenida, Miramar, Havana.

DENMARK.—Commercial Counsellor, Canadian Embassy, Prinsesse Maries Allé 2, Copenhagen V. Territory includes Greenland and Poland.

DOMINICAN REPUBLIC.—Commercial Secretary, Canadian Embassy, Apartado 1393, Edificio Copello 408, Calle El Conde, Santo Domingo. Territory includes Puerto Rico and Haiti.

FRANCE.—Minister-Counsellor (Commercial), Canadian Embassy, 35 Ave. Montaigne, Paris 8°. Territory includes Algeria, Andorra, Monaco, Morocco and St. Pierre and Miquelon.

GERMANY.—

Bad Godesberg: Commercial Counsellor, Canadian Embassy, Kennedy-Allee 35, Bad Godesberg. Territory includes States of Baden-Wuerttemberg, Bavaria, Hesse, Rhineland-Palatinate and Saar and West Berlin.

Duesseldorf: Consul General, Canadian Consulate General, Koenigsallee 82, 4 Duesseldorf 1. Territory includes State of North Rhine-Westphalia.

Hamburg: Consul General, Canadian Consulate General, Esplanade 41-47, 2000 Hamburg 36. Territory includes City States of Bremen and Hamburg; States of Lower Saxony and Schleswig-Holstein.

GHANA.—Commercial Secretary, Office of the High Commissioner for Canada, P.O. Box 1639, E 115/3 Independence Ave., Accra. Territory includes Guinea, Ivory Coast, Liberia, Mali, Mauritania, Togo and Upper Volta.

GREECE.—Commercial Counsellor, Canadian Embassy, 31 Vassilissis Sophias Ave., Athens 138. Territory includes Turkey.

GUATEMALA.—Commercial Counsellor, Canadian Embassy, P.O. Box 400, 5a Avenida 11-70, Zone 1, Guatemala City, C.A. Territory includes Costa Rica, El Salvador, Honduras, Nicaragua, Panama and Canal Zone.

HONG KONG.—Senior Canadian Government Trade Commissioner, P.O. Box 126, P & O Building, 21-23, Des Voeux Rd., Central, Hong Kong. Territory includes Cambodia, Communist China, Laos, Viet-Nam and Macao.

INDIA.—Commercial Counsellor for Canada, P.O. Box 11, 13 Golf Links Rd., New Delhi 1. Territory includes Bhutan, Nepal and Sikkim.

IRAN.—Commercial Division, Canadian Embassy, P.O. Box 1610, Bezrouke Bldg., Corner of Takht Jamshid Ave. and Forsat St., Tehran.

IRELAND.—Commercial Counsellor for Canada, 66 Upper O'Connell St., Dublin.

ISRAEL.—Commercial Secretary, Canadian Embassy, P.O. Box 20140, 84 Hahashmonaim St., Tel Aviv. Territory includes Cyprus.

ITALY.—

Rome: Commercial Counsellor, Canadian Embassy, Via G.B. De Rossi 27, 00161 Rome. Territory includes Provinces of Toscana, Marche, Umbria, Lazio, Abruzzi-Molise, Puglia, Campania, Basilicata, Calabria, Sicilia and Sardegna. Other countries: Libya and Malta.

Milan: Consul General and Trade Commissioner, Canadian Consulate General, C.P. 3977, Via Vittor Pisani 19, 20124 Milan. Territory includes Provinces of Emilia-Romagna, Lombardia, Piedimonte, Trentino-Alto Adige, Veneto, Liguria, Trieste, Valle D'Aosta and Friuli-Venezia.

JAMAICA.—Commercial Secretary, Office of the High Commissioner for Canada, P.O. Box 1500, Tobago Rd., (corner Trafalgar Rd. and Knutsford Blvd.) Kingston 10. Territory includes Bahamas, British Honduras, Cayman Islands, Turks and Caicos Islands.

JAPAN.—Minister (Commercial), Canadian Embassy, Akasaka Post Office, Tokyo. Territory includes Korea and Okinawa.

KENYA.—Commercial Secretary, Office of the High Commissioner for Canada, P.O. Box 3778, Industrial Promotion Services Bldg., Kimathi St., Nairobi. Territory includes Malawi, Tanzania, Uganda and Zambia.

LEBANON.—Commercial Counsellor, Canadian Embassy, Boite Postale 2300, Alpha Bldg., Rue Clemenceau, Beirut. Territory includes Aden, Iraq, Jordan, Kuwait, Persian Gulf area, Saudi Arabia, Syria, Trucial States and Yemen.

MALAYSIA.—Commercial Counsellor, Office of the High Commissioner for Canada, P.O. Box 990, A.I.A. Bldg., Ampang Road, Kuala Lumpur. Territory includes Brunei and Burma.

MEXICO.—Commercial Counsellor, Canadian Embassy, Apartado Postal 5-364, Melchor Ocampo 463, Mexico 5, D.F.

NETHERLANDS.—Commercial Counsellor, Canadian Embassy, Sophialaan 7, The Hague.

NEW ZEALAND.—Commercial Secretary, Office of the High Commissioner for Canada, P.O. Box 12-049, ICI Building, Molesworth St., Wellington. Territory includes Cook Islands, Fiji, French Oceania, Gilbert and Ellice Islands, Tahiti, Tonga and Western Samoa.

NIGERIA.—Commercial Secretary, Office of the High Commissioner for Canada, P.O. Box 851, Niger House, Odunlami St., Lagos. Territory includes Dahomey, Gambia, Niger, Senegal and Sierra Leone.

NORWAY.—Commercial Counsellor, Canadian Embassy, Fridtjof Nansens plass 5, Oslo 1. Territory includes Iceland.

PAKISTAN.—Commercial Counsellor, Office of the High Commissioner for Canada, 54 Haider Rd., Rawalpindi. Territory includes Afghanistan.

PERU.—Commercial Secretary, Canadian Embassy, Casilla 1212, Edificio El Pacifico, Corner Avenida Arequipa and Plaza Washington, Lima. Territory includes Bolivia.

PHILIPPINES.—Consul General and Trade Commissioner, Canadian Consulate General, P.O. Box 1825, 1414 Roxas Blvd., Manila. Territory includes Republic of China (Taiwan).

- PORTUGAL.**—Commercial Counsellor, Canadian Embassy, Rua Marques de Fronteira, No. 8-4°D°, Lisbon. Territory includes Azores, Cape Verde Islands, Madeira and Portuguese Guinea.
- SINGAPORE.**—Commercial Counsellor, Office of the High Commissioner for Canada, P.O. Box 845, International Building, 360 Orchard Rd., Singapore 1. Territory includes Indonesia and Thailand.
- SOUTH AFRICA.**—
Johannesburg: Canadian Government Trade Commissioner, P.O. Box 715, Mobil House, Corner Rissik and De Villiers Sts., Johannesburg. Territory includes Provinces of Natal, Orange Free State and Transvaal. Other countries: Angola, Botswana, Lesotho, Malagasy, Mauritius, Mozambique, Reunion and Swaziland.
Cape Town: Canadian Government Trade Commissioner, P.O. Box 683, African Life Centre, St. George's St. Territory includes Cape Province. Other countries: St. Helena and South West Africa.
- SPAIN.**—Commercial Counsellor, Canadian Embassy, Edificio España, Avenida de Jose Antonio 88, Madrid. Territory includes Balearic Islands, Canary Islands, Gibraltar, Rio Muni, Rio de Oro and Spanish Sahara.
- SWEDEN.**—Commercial Counsellor, P.O. Box 14042, Kungsgatan 24, Stockholm. Territory includes Finland.
- SWITZERLAND.**—Commercial Secretary, Canadian Embassy, Kirchenfeldstrasse 88, Berne. Territory includes Tunisia and Liechtenstein.
- TRINIDAD AND TOBAGO.**—Commercial Counsellor, Office of the High Commissioner for Canada, P.O. Box 1246, Colonial Bldg., 72 South Quay, Port-of-Spain. Territory includes Barbados, Leeward and Windward Islands, Guyana, French Guiana, Surinam, Guadeloupe and Martinique.
- UNION OF SOVIET SOCIALIST REPUBLICS.**—Commercial Counsellor, Canadian Embassy, 23 Starokonnyushenny Pereulok, Moscow.
- UNITED ARAB REPUBLIC.**—Commercial Division, Canadian Embassy, Kasr el Doubara Post Office, 6 Sharia Rouston Pasha, Garden City, Cairo. Territory includes Ethiopia, Somali Republic and Sudan.
- UNITED NATIONS.**—Permanent Mission of Canada to the United Nations, 866 United Nations Plaza, New York, N.Y. 10017.
- UNITED STATES.**—
Washington: Commercial Counsellor, Canadian Embassy, 1746 Massachusetts Ave., N.W., Washington, D.C. 20036. Territory includes District of Columbia.
New York City: Deputy Consul General (Commercial), Canadian Consulate General, 680 Fifth Ave., New York, N.Y. 10019. Territory includes States of Connecticut, New Jersey (eleven northern counties) and New York. Other countries: Bermuda.
Boston: Consul and Trade Commissioner, Canadian Consulate General, 500 Boylston St., Boston, Mass. 02116. Territory includes States of Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.
Chicago: Consul and Senior Trade Commissioner, Canadian Consulate General, 310 South Michigan Ave., Chicago, Ill. 60604. Territory includes States of Illinois, North Dakota, South Dakota, Minnesota, Wisconsin, Indiana, Iowa, Kentucky, Missouri and Nebraska.
Cleveland: Consul and Trade Commissioner, Canadian Consulate, Illuminating Building, 55 Public Square, Cleveland, Ohio 44113. Territory includes State of Ohio.
Dallas: Consul and Trade Commissioner, Canadian Consulate, 2100 Adolphus Tower, 1412 Main St., Dallas, Texas 75202.
Detroit: Consul and Trade Commissioner, Canadian Consulate, 1920 First Federal Bldg., 1001 Woodward Ave., Detroit, Mich. 48226. Territory includes State of Michigan.
Los Angeles: Consul and Trade Commissioner, Canadian Consulate General, 510 West Sixth St., Los Angeles, Cal. 90014. Territory includes States of California (ten southern counties), Arizona and Clark County in Nevada.
New Orleans: Consul and Trade Commissioner, Commercial Division, Canadian Consulate General, 2110 International Trade Mart, 2 Canal St., New Orleans, La. 70130. Territory includes States of Louisiana, Mississippi, Tennessee, Alabama, North Carolina, South Carolina, Georgia and Florida.
Philadelphia: Consul and Trade Commissioner, Canadian Consulate, 3 Penn Center Plaza, Philadelphia, Pa. 19102. Territory includes States of Delaware, Maryland, New Jersey (nine southern counties), Pennsylvania, Virginia and West Virginia.
San Francisco: Consul and Trade Commissioner, Commercial Division, Canadian Consulate General, One Maritime Plaza, Golden Gate Center, San Francisco, Cal. 94111. Territory includes States of California (except the ten southern counties), Wyoming, Nevada (except Clark County), Utah, Colorado and Hawaii.
Seattle: Consul General, Canadian Consulate General, 1308 Tower Bldg., Seventh Avenue at Olive Way, Seattle, Wash. 98101. Territory includes States of Oregon, Idaho, Washington, Montana and Alaska.

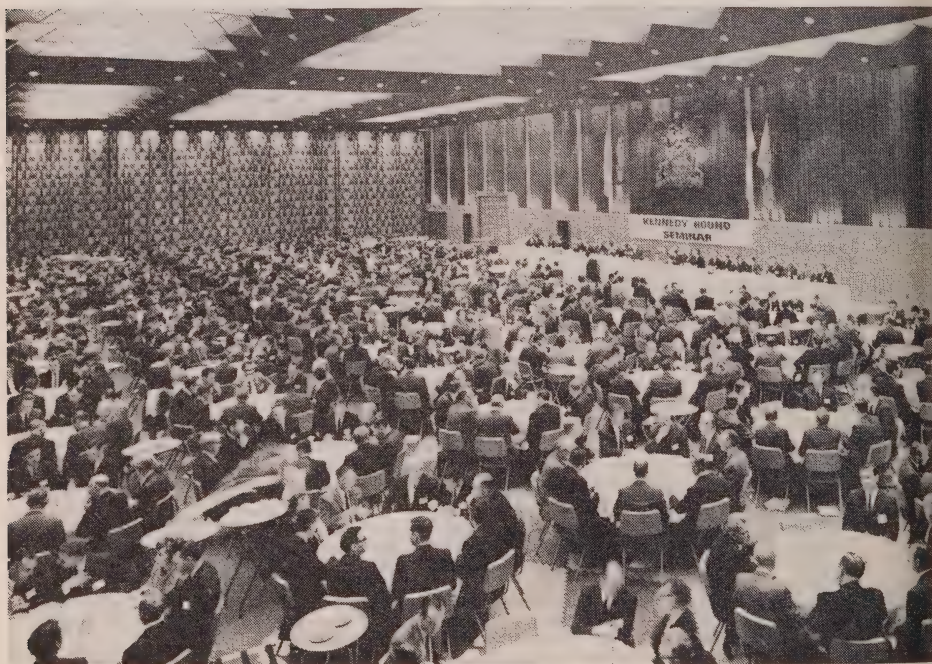
URUGUAY.—Commercial Division, Canadian Embassy, Casilla Postal 852, No. 1409 Avenida Agraciada Piso 7°, Montevideo. Territory includes Falkland Islands.

VENEZUELA.—Commercial Counsellor, Canadian Embassy, Apartado del Este 11452, Avenida La Estancia No. 10, Ciudad Comercial Tamanaco, Caracas. Territory includes Netherlands Antilles.

YUGOSLAVIA.—Commercial Secretary, Canadian Embassy, Proleterskih Brigada 69, Belgrade.

Trade Fairs and Missions Branch.—It is the function of this Branch to organize and co-ordinate the Department's annual program of participation in trade fairs abroad and of outgoing and incoming trade missions. The Trade Fairs Abroad Division and the Trade Missions Division co-ordinate departmental activity in implementing these promotion programs and in organizing the trade fair exhibits and trade missions scheduled during the year. The Branch Director acts as chairman of the Departmental committees that select the program and the Division Chiefs preside over working committees appointed to handle detailed planning. The Branch also provides liaison with Trade Commissioner Service posts abroad, trade associations in Canada, provincial governments and other federal departments or agencies in the development of trade promotion programs.

In 1967 the Department of Trade and Commerce sponsored exhibits in 46 trade fairs abroad in such key markets as the United States, England, West Germany, the Netherlands, France, Russia, Yugoslavia, Czechoslovakia, South Africa, Peru, Italy and Ireland. The products of hundreds of Canadian manufacturers were exhibited to potential foreign buyers estimated at over 16,000,000. The 37 trade missions organized in 1967 included



The Department of Trade and Commerce, in co-operation with provincial trade departments across Canada, organized five Kennedy Round Trade Opportunities Seminars in the autumn of 1967 to promote an understanding of the negotiations and their implications for Canadian business men. Twelve hundred of them attended the Toronto Seminar and the response was equally enthusiastic in the other four cities.

10 teams of Canadian business men sent abroad to study special markets in Western and Eastern Europe, Latin America, Australia and the Far East. Twenty-seven groups of business visitors were brought to Canada from Western and Eastern Europe, Australia, the United States, Africa, the Middle East and the Far East. The trade missions program was increased by eleven missions over the previous year and included as mission members some 100 Canadian business men and over 200 foreign business men.

Trade Policy Service.—The Office of Trade Relations, together with the Office of Commodity Trade Policy, which was established in September 1966, forms the Department's Trade Policy Service.

The main function of the Office of Trade Relations is to safeguard and improve terms of access for Canadian exporters in foreign markets. The Office is concerned with the conduct of Canadian trade relations with other countries, including the negotiation and administration of trade agreements and Canadian participation in international conferences and meetings dealing with trade and economic matters. It endeavours to find practical solutions for tariff problems and other difficulties encountered in foreign markets by Canadian exporters and, as a service to exporters, provides expert information, advice and assistance on foreign tariffs, import and exchange controls, documentation requirements and other foreign governmental regulations affecting Canada's trade. The Office also has responsibilities in relation to the export financing facilities available for the development of exports of Canadian capital equipment. The Area Divisions of the Office—Commonwealth, United States, European, Latin American and Asia and Middle East—are the central points of contact between Canada's Trade Commissioners abroad and the Department in Ottawa.

The Office of Commodity Trade Policy has two main areas of interest: it makes detailed commodity studies to ensure that the development of Canadian trade and related policies reflects the key role of export in the economy, and it has the responsibility for international commodity policy work, including the negotiation of international commodity arrangements and related activities.

Transportation and Trade Services Branch.—The functions of this Branch relate to freight transportation matters, export and import controls, trade directories, the administration of the seven Regional Offices and the provision of general guidance to firms seeking entry into the export field. These activities are conducted by three Divisions: the Transportation Division is concerned primarily with industrial transportation from the export shipper's point of view, with policies and practices affecting the movement of international trade, and with developments and trends in shipping services and freight rates; the Export and Import Permits Division administers the controls established under the Export and Import Permits Act; and the Regional Offices and Trade Services Division administers the Department's Regional Offices and compiles the Exporters' Directory, a confidential directory of firms engaged in or seriously interested in exporting commodities or services.

Commodity Branches.—The Commodities and Industries Services include three commodity branches—the Agriculture and Fisheries Branch, the Industrial Materials Branch and the Manufacturing Industries and Engineering Branch. These Branches provide the main link between industry and the Department; they maintain close contact with the business community to be familiar with production and supply conditions in Canada. Emphasis is placed on the search for products and services, the sale of which can be promoted abroad.

The Agriculture and Fisheries Branch is organized into five divisions to cover fisheries, grain, livestock and animal products, plant products, and commodity arrangements and markets development. The Industrial Materials Branch is composed of three divisions to handle chemicals, forest products and metals and minerals. The Manufacturing Industries and Engineering Branch is organized into four divisions responsible for appliances and

commercial machinery, electrical and electronic equipment, mechanical equipment and engineering, and textiles and consumer goods as well as a project division responsible for specialized studies. These divisions are staffed by commodity officers who are specialists in their fields and are available to assist Canadian business men.

Commodity officers visit manufacturing plants and production facilities, attend and address meetings of business associations and study groups and prepare product reports and market surveys. They constitute the principal channel through which information on Canadian products and services reaches Canadian Trade Commissioners abroad and a channel through which information on sales opportunities in countries abroad is disseminated to industry in Canada. They continually analyse reports from Trade Commissioners abroad to determine potential markets for commodities and services of interest to Canadian industry. In co-operation with the Canadian Government Exhibition Commission, they assist in making arrangements for the display of commodities in trade fairs throughout the world to introduce Canadian products into new markets. They organize and accompany departmental trade missions and serve as delegates to international commodity conferences to study world market conditions and to consider corrective adjustments.

Trade Publicity Branch.—The function of the Trade Publicity Branch is to stimulate interest in Canadian products in foreign markets and to encourage Canadian manufacturers to look beyond domestic horizons. Advertising, public relations and publicity techniques are used in varying combinations to accomplish these objectives. Advertising, periodicals, booklets, brochures and other printed matter are used in direct support of trade fairs and missions; news releases, radio tape recordings and television film clips are employed to inform Canadians of foreign trade opportunities and successes.

The Branch is composed of an Operations Group and five Divisions. The Operations Group plans and executes the major activities concerning trade fairs and in-store promotions. Working closely with that Group is the Editorial Division which employs writers and editors, and the Art Division which is responsible for design, production and technical work. The Media Relations Division prepares and distributes press releases, articles, photographs, speeches and background material to newspapers, radio and television stations, magazines and the Canadian trade press. It provides publicity material for distribution abroad and produces and distributes films and television clips to promote interest in Canada as a supplier of many commodities. The Canada Courier Division produces *Canada Courier*, an illustrated, eight-page international trade promotion newspaper, published on behalf of Canadian exporters to promote products and services abroad. It has a circulation of 97,000 and is distributed in more than 100 countries. The English edition is published six times a year and the French, Spanish and German editions twice annually. The Foreign Trade Division publishes the magazine *Foreign Trade*, fortnightly, and *Commerce extérieur*, monthly. These journals, designed to help Canadian exporters, contain information on overseas markets, tariffs, exchange rates and other pertinent trade data.

Canadian Government Exhibition Commission.—The Commission organizes, designs, produces and administers all Canadian exhibits at fairs and exhibitions abroad in which the Canadian Government participates and also advises private exhibitors and their agents on the best means of displaying Canadian products at trade fairs. It acts as a central service agency for all government departments and agencies in the preparation of conventional exhibits and displays for showing in Canada and is responsible for international fairs and exhibitions held in Canada that are financed and sponsored by the Government of Canada.

Canadian Government Travel Bureau.—The Canadian Government Travel Bureau is in operation to encourage tourist travel to Canada and to co-ordinate the tourist promotion conducted by the provinces, transportation companies and national, regional and local tourist associations. The Bureau undertakes extensive tourist advertising campaigns abroad, provides tourist publicity material for foreign newspapers, magazines, radio and television outlets, and handles about 2,000,000 inquiries a year from potential visitors to Canada. Offices are operated in New York, Chicago, San Francisco, Minneapolis, Los Angeles, Boston, Philadelphia, Cincinnati, Rochester, Indianapolis, Cleveland, Detroit, Washington, Hartford, Pittsburgh and Seattle in the United States; the Bureau also has representation in London, Paris, Frankfurt, Amsterdam, Copenhagen, Mexico City, Tokyo and Sydney, Australia.

Export Credits Insurance Corporation.—This Corporation was established under the provisions of the Export Credits Insurance Act, 1944 (RSC 1952, c. 105, as amended) and is administered by a Board of Directors that includes the Deputy Minister of Trade and Commerce and the Deputy Minister of Finance. It operates in two fields—export credits insurance and long-term export financing.

Insurance is available to all persons or corporations carrying on business in Canada to cover export sales made on customary credit terms. It provides protection against risks involved in the export, manufacture, treatment or distribution of goods, or the rendering of engineering, construction, technical or similar services. The main risks covered include: insolvency or protracted default on the part of the buyer; exchange restrictions in the buyer's country preventing the transfer of funds to Canada; cancellation of an import licence or an export licence or the imposition of restrictions on the import or export of goods not previously subject to restrictions; the occurrence of war between the buyer's country and Canada, or of war, revolution, etc., in the buyer's country. The insurance is available under three main classifications—general commodities, capital goods and services. General commodities policies cover a policyholder's export sales to all countries for a period of one year, and are renewable. Two types are available: the contracts policy, which insures an exporter against loss from the time he books an order until payment is received; or the shipments policy, obtainable at lower rates of premium and covering the exporter from the time of shipment until payment is received. Insurance of capital goods offers protection to exporters dealing in plant equipment, heavy machinery, etc., where extended credit up to a maximum of five years may be necessary. Specific policies are issued for transactions involving capital goods but the general terms and conditions are the same as those applicable to policies for general commodities. Specific policies are also issued to cover engineering, construction, technical or similar service contracts entered into between Canadian firms and persons in foreign countries who have agreed to purchase such services. The Corporation may also extend unconditional guarantees to Canadian chartered banks which will agree to provide non-recourse financing to insured exporters who have sold capital equipment abroad on medium-term credit.

The Corporation insures exporters on a co-insurance basis, the exporter retaining a small percentage of the risk involved, and the same principle operates in the distribution of recoveries obtained after the payment of a claim. When, in the opinion of the Minister of Trade and Commerce, a proposed transaction is in the national interest but would impose upon the Corporation a liability for a term or in an amount in excess of that normally undertaken, the Corporation may be authorized by the Governor in Council to enter into a contract of insurance at the Government's risk.

The Corporation also administers direct financing facilities available under the Act in cases where export sales involving capital goods are of such a nature as to warrant credit terms in excess of five years. The Corporation, when authorized by the Governor in Council, buys the promissory notes or other negotiable instruments of the foreign purchaser.

Section 2.—The Development of Tariffs

Limitations of space in the Year Book have made it necessary, in regard to tariffs, to adopt the policy of confining any detail regarding commodities and countries to tariff relationships in force at present and to summarize as much as possible historical data and details of preceding tariffs.

Subsection 1.—The Canadian Tariff Structure*

The Canadian Tariff consists, in the main, of three sets of tariff rates—British Preferential, Most-Favoured-Nation, and General.

British Preferential Tariff rates are, with some exceptions, the lowest rates. They are applied to imported commodities from British countries, with the exception of Hong Kong, when conveyed without trans-shipment from a port of any British country enjoying the benefits of the British Preferential Tariff into a port of Canada. Some Commonwealth countries have trade agreements with Canada which provide for rates of duty, on certain specified goods, lower than the British Preferential rates.

Most-Favoured-Nation rates are usually higher than the British Preferential rates and lower than the General Tariff rates. They are applied to commodities imported from countries with which Canada has trade agreements. These rates would apply to British countries when they are lower than the British Preferential Tariff rates. The most important trade agreement concerning the effective rates applied to goods imported from countries entitled to Most-Favoured-Nation rates is the General Agreement on Tariffs and Trade (GATT).

General Tariff rates are applied to goods imported from the few countries with which Canada has not made trade agreements.

There are numerous goods which are duty free under the British Preferential Tariff, or under both the British Preferential and Most-Favoured-Nation Tariffs, or under all Tariffs.

Valuation.—In general, the Customs Act provides that the value for duty of imported goods shall be the fair market value of like goods as established in the home market of the exporter at the time when and place from which the goods are shipped directly to Canada when sold “(a) to purchasers located at that place with whom the vendor deals at arm’s length and who are at the same or substantially the same trade level as the importer, and (b) in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions”. In cases where like goods are not sold for home consumption but similar goods are sold, the value for duty shall be the cost of production of the goods imported plus an amount for gross profit equal in percentage to that earned on the sale of similar goods in the country of export. The value for duty ordinarily may not be less than the amount for which the goods were sold to the purchaser in Canada, exclusive of all charges thereon after their shipment from the country of export. Internal taxes in the country of export (when not incurred on exported goods), the cost of shipping goods to Canada and similar charges do not normally form part of the value for duty. There are, of course, further provisions for determining value for duty under the Act.

Dumping.—Sect. 6 of the Customs Tariff provides that when the actual selling price of goods being imported is less than the fair market value and the goods are of a class or kind made or produced in Canada, a special or dumping duty shall be collected. This

* Information relating to rate of duty and value for duty is available from the Department of National Revenue, Customs and Excise, which administers the Customs Act and the Customs Tariff.

duty is to be equal to the difference between the actual selling price and the fair market value of the goods, except that it may not be more than 50 p.c. ad valorem. These provisions are designed to offset the advantage foreign exporters may achieve by exporting to Canada at less than the going prices in the country of export.

Drawback.—There are provisions in the Customs and Excise Tax Acts for the repayment of a portion of the duty, sales and/or excise taxes paid on imported goods used in the manufacture of products later exported. The purpose of these drawbacks (as these repayments are called) is to assist Canadian manufacturers to compete in foreign markets with foreign producers of similar goods. A second class of drawback, known as "home consumption" drawbacks, is provided for under the Customs Act and the Customs Tariff and applies to imported materials and/or parts used in the production of specified goods to be consumed in Canada.

The Tariff Board.—The organization and functions of the Tariff Board are described t p. 138 of this volume.

Subsection 2.—Tariff and Trade Arrangements with Other Countries as at Sept. 15, 1967

Canada's tariff arrangements with other countries fall into three main categories: trade agreements with a number of Commonwealth countries; the General Agreement on Tariffs and Trade (GATT); and other agreements and arrangements.

The Commonwealth countries with which Canada has trade agreements providing for exchange of preferential rates are: Australia, the Bahamas, Barbados, Bermuda, Guyana, British Honduras, Jamaica, the Leeward and Windward Islands, Trinidad and Tobago, New Zealand, Britain and its dependent territories, and Malawi. Canada also exchanges preferences with Ceylon, Cyprus, Malaysia and Malta and accords preferences to India, Pakistan, Ghana, Nigeria, Kenya, Tanzania, Uganda, Zambia and Sierra Leone. Many of these countries are also members of the GATT. In addition, Canada has trade agreements with Ireland and South Africa under which preferences are exchanged.

Canada signed the Protocol of Provisional Application of the General Agreement on Tariffs and Trade on Oct. 30, 1947, and brought the General Agreement into force on Jan. 1, 1948. The Agreement provides for scheduled tariff concessions and the exchange of most-favoured-nation treatment among the contracting parties, and lays down rules and regulations to govern the conduct of international trade.

At the beginning of August 1967, there were 72 full members in the GATT. These countries and the effective dates of their accession are indicated in the following list. In addition, Argentina, Iceland, Tunisia and the United Arab Republic were provisional members. The GATT is applied on a *de facto* basis to a number of newly independent states—Algeria, Botswana, Democratic Republic of the Congo, Lesotho, Maldive Islands, Mali, Singapore and Zambia—pending decisions as to their future commercial policies; Cambodia and Poland, although not members, participate in the work of the GATT. At the time of writing, a postal ballot on the full accession of Argentina, Iceland, Poland and Ireland was being conducted.

Trade relations between Canada and a number of other countries are governed by trade agreements of various kinds, by exchange of most-favoured-nation treatment under Orders in Council, by continuation to newly independent states of the same treatment originally negotiated with the countries previously responsible for their commercial relations, and by even less formal arrangements.

**Tariff and Trade Arrangements with Commonwealth Countries
as at Sept. 15, 1967**

Country	Agreement	Tariff Treatment
AUSTRALIA.....	Trade Agreement signed Feb. 12, 1960; in force June 30, 1960. GATT effective Jan. 1, 1948.	Agreement includes schedules of tariff rates and margins and exchange of British preferential rates on items not scheduled. May be terminated on six months notice.
BARBADOS.....	Relations are based on Canada-West Indies Trade Agreement and protocol thereto (see Commonwealth Caribbean). GATT effective Nov. 30, 1966.	The parties exchange specified tariff preferences.
BRITAIN.....	Trade Agreement signed Feb. 23, 1937, effective Sept. 1, 1937; modified by exchanges of letters Nov. 16, 1938 and Oct. 20, 1947. GATT effective Jan. 1, 1948.	Various concessions are granted by each country including exchange of preferential tariff rates. The Agreement (as modified) includes provisions relating to the Colonies, Dependencies and Trustships.
CEYLON.....	Relations continue to be governed by Trade Agreement of 1937 with Britain. GATT effective July 29, 1948.	Canada and Ceylon exchange preferential tariff treatment.
COMMONWEALTH CARIBBEAN (BAHAMAS, BARBADOS, BERMUDA, BRITISH HONDURAS, THE LEEWARD ISLANDS, AND THE WINDWARD ISLANDS).	Canada-British West Indies Trade Agreement signed July 6, 1925, in force Apr. 30, 1927; Canadian notice of termination of Nov. 23, 1938, was replaced by notice of Dec. 27, 1939, which continued the Agreement. Protocol signed July 8, 1966 continues <i>ad interim</i> and amends Part I of the Canada-British West Indies Trade Agreement; terminates Part II of that Agreement and incorporates a number of additional provisions. Barbados, Bermuda, British Honduras and the Leeward and the Windward Islands participate in GATT.	The parties exchange specified tariff preferences.
CYPRUS.....	GATT effective Aug. 16, 1960.	Canada exchanges preferential tariff treatment with Cyprus.
GAMBIA.....	GATT effective Feb. 18, 1965.	Canada and Gambia exchange preferential tariff treatment.
GHANA.....	Relations continue to be governed by Trade Agreement of 1937 with Britain. GATT effective Oct. 18, 1957.	Canada accords British preferential treatment to Ghana (except on cocoa beans). Ghana extends most-favoured-nation treatment to Canada.
GUYANA.....	Relations are based on the Canada-West Indies Trade Agreement and protocol thereto (see Commonwealth Caribbean). GATT effective July 5, 1966.	The parties exchange specified tariff preferences.
INDIA.....	Since 1897 Canada has unilaterally accorded British preferential treatment without contractual obligation. GATT effective July 8, 1948.	Canada accords British preferential treatment to India. India extends most-favoured-nation treatment to Canada.
JAMAICA.....	Relations are based on Canada-West Indies Trade Agreement and protocol thereto (see Commonwealth Caribbean). GATT effective Aug. 6, 1962.	The parties exchange specified tariff preferences.
KENYA.....	GATT effective Dec. 12, 1963.	Canada accords British preferential tariff treatment to Kenya. Kenya extends most-favoured-nation treatment to Canada.

**Tariff and Trade Arrangements with Commonwealth Countries
as at Sept. 15, 1967—concluded**

Country	Agreement	Tariff Treatment
MALAWI.....	Malawi and Canada observe the terms of the 1958 Trade Agreement between Canada and the former Federation of Rhodesia and Nyasaland. GATT effective July 6, 1964.	Canada exchanges preferential tariff treatment with Malawi.
MALAYSIA.....	Relations continue to be governed by Trade Agreement of 1937 with Britain. GATT effective Sept. 16, 1963.	Canada and Malaysia exchange preferential tariff treatment.
MALTA.....	Relations continue to be governed by Trade Agreement of 1937 with Britain. GATT effective Sept. 16, 1964.	Canada exchanges British preferential treatment with Malta.
NEW ZEALAND.....	Trade Agreement signed Apr. 23, 1932; in force May 24, 1932. GATT effective July 26, 1948.	The parties exchange specific preferences on scheduled goods and reciprocally grant British preferential rates on items not scheduled. May be terminated on six months notice.
NIGERIA, FEDERATION OF.....	Relations continue to be governed by Trade Agreement of 1937 with Britain. GATT effective Oct. 1, 1960.	Canada accords British preferential treatment to Nigeria. Nigeria extends most-favoured-nation treatment to Canada.
PAKISTAN.....	Canada unilaterally accords British preferential treatment without contractual obligation. GATT effective July 30, 1948.	Canada accords British preferential treatment to Pakistan. Exchange of most-favoured-nation treatment.
RHODESIA.....	Canada does not recognize the present Government of Rhodesia.	Effective Nov. 11, 1965, Canada withdrew preferential treatment from Rhodesian goods, making them liable to the general tariff rate. Effective Dec. 31, 1965, Rhodesia withdrew preferential treatment from Canadian goods and required that they pay the most-favoured-nation rate.
SIERRA LEONE.....	Relations continue to be governed by Trade Agreement with Britain of 1937. GATT effective Apr. 27, 1961.	Exchange of most-favoured-nation treatment. Canada accords British preferential treatment to Sierra Leone. Sierra Leone extends most-favoured-nation treatment to Canada.
SINGAPORE.....	GATT effective <i>de facto</i> Aug. 9, 1965, pending Singapore's decision on commercial policy.	Canada and Singapore exchange preferential treatment.
TRINIDAD AND TOBAGO.....	Relations are based on Canada-West Indies Trade Agreement and protocol thereto (see Commonwealth Caribbean). GATT effective Aug. 31, 1962.	The parties exchange specified tariff preferences.
UGANDA.....	GATT effective Oct. 9, 1962.	Canada accords British preferential tariff treatment to Uganda. Uganda extends most-favoured-nation tariff treatment to Canada.
UNITED REPUBLIC OF TANZANIA.	GATT effective for Tanganyika Dec. 9, 1961 and extended to Zanzibar upon formation of United Republic Apr. 23, 1964.	Canada accords British preferential tariff treatment to the United Republic of Tanzania. Tanzania extends most-favoured-nation tariff treatment to Canada.
ZAMBIA.....	GATT extension of <i>de facto</i> application, expiry date Oct. 24, 1967.	Canada accords British preferential treatment to Zambia. Zambia extends most-favoured-nation tariff treatment to Canada.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Sept. 15, 1967**

Country	Agreement	Tariff Treatment
ALGERIA.....	Franco-Canadian Trade Agreement of 1933 applied to Algeria. Algeria maintains a <i>de facto</i> application of the GATT.	Since the creation of Algeria as an independent state in 1962, Canada has continued to grant most-favoured-nation treatment.
ARGENTINA.....	Trade Agreement signed Oct. 2, 1941; provisionally in force Nov. 15, 1941. Argentina has acceded to GATT provisionally and applied for full membership in 1967.	Exchange of most-favoured-nation treatment. Provisional application may be terminated on three months notice.
AUSTRIA.....	GATT effective Oct. 19, 1951.	Exchange of most-favoured-nation treatment.
BELGIUM-LUXEMBOURG.....	Convention of Commerce with Belgium-Luxembourg Economic Union (including Belgian colonies) entered into effect Oct. 22, 1924. GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment. May be terminated on one years notice.
BENELUX (BELGIUM-NETHERLANDS-LUXEMBOURG CUSTOMS UNION).	(See Belgium-Luxembourg and Netherlands.)	
BOLIVIA.....	Order in Council of July 20, 1935, accepted Article 15 of U.K.-Bolivia Treaty of Commerce of Aug. 1, 1911.	Exchange of most-favoured-nation treatment. May be terminated on one years notice.
BRAZIL.....	Trade Agreement signed Oct. 17, 1941; provisionally in force from date of signing and definitively on Apr. 16, 1943. GATT effective July 31, 1948.	Exchange of most-favoured-nation treatment.
BULGARIA.....	Trade Agreement signed Oct. 8, 1963 and renewed to Oct. 8, 1969.	Exchange of most-favoured-nation treatment and undertaking by Bulgaria to purchase a minimum of 200,000 metric tons of wheat or equivalent in flour during the three years validity of the Agreement.
BURMA.....	GATT effective July 29, 1948.	Exchange of most-favoured-nation treatment.
BURUNDI.....	GATT effective July 1, 1962.	Canada grants most-favoured-nation treatment.
CAMBODIA.....	Franco-Canadian Trade Agreement of 1933 applied to Cambodia. Although not a full member, Cambodia takes part in the work of GATT under a special arrangement.	Since the creation of Cambodia as an independent state in 1955, Canada has continued to grant most-favoured-nation treatment.
CAMEROON.....	Franco-Canadian Trade Agreement of 1933 applied to Cameroon. GATT effective Nov. 28, 1960.	Exchange of most-favoured-nation treatment.
CENTRAL AFRICAN REPUBLIC...	Franco-Canadian Trade Agreement of 1933 applied to Central African Republic. GATT effective Aug. 14, 1960.	Exchange of most-favoured-nation treatment.
CHAD.....	Franco-Canadian Trade Agreement of 1933 applied to Chad. GATT effective Aug. 11, 1960.	Exchange of most-favoured-nation treatment.
CHILE.....	Trade Agreement signed Sept. 10, 1941; provisionally in force Oct. 15, 1941, and definitively on Oct. 29, 1943. GATT effective Mar. 16, 1948.	Exchange of most-favoured-nation treatment.
CHINA.....	<i>Modus vivendi</i> signed Sept. 26, 1946. Covers the territory of China and Taiwan.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Sept. 15, 1967—continued**

Country	Agreement	Tariff Treatment
COLOMBIA.....	Treaty of Commerce with Britain of Feb. 16, 1866, applies to Canada. Modified by protocol of Aug. 20, 1912, and exchange of notes Dec. 30, 1938.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
CONGO (BRAZZAVILLE).....	Franco-Canadian Trade Agreement of 1933 applies to Congo (Brazzaville). GATT effective Aug. 15, 1960.	Exchange of most-favoured-nation treatment.
CONGO (LEOPOLDVILLE).....	Belgo-Canadian Convention of Commerce of 1924 applied to Congo (Leopoldville). Maintains a <i>de facto</i> application of the GATT.	Since the Congo's independence in 1960, Canada has continued to grant most-favoured-nation treatment.
COSTA RICA.....	<i>Modus vivendi</i> signed Nov. 18, 1950; brought into force Jan. 26, 1951.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
CUBA.....	GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment.
CZECHOSLOVAKIA.....	Convention of Commerce signed Mar. 15, 1928; in force Nov. 14, 1928. GATT effective May 21, 1948.	Exchange of most-favoured-nation treatment.
DAHOMY.....	Franco-Canadian Trade Agreement of 1933 applied to Dahomey. GATT effective Aug. 1, 1960.	Exchange of most-favoured-nation treatment.
DENMARK (INCLUDING GREENLAND).	Treaties of Peace and Commerce with Britain of Feb. 13, 1660 and July 11, 1670, apply to Canada. GATT effective May 28, 1950.	Exchange of most-favoured-nation treatment. Declaration of May 9, 1912 provides means for separate termination by Dominions on one years notice.
DOMINICAN REPUBLIC.....	Trade Agreement signed Mar. 8, 1940; in force Jan. 22, 1941. GATT effective May 19, 1950.	Exchange of most-favoured-nation treatment including scheduled concessions.
ECUADOR.....	<i>Modus vivendi</i> signed Nov. 10, 1950; in force Dec. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
EGYPT.....	(See United Arab Republic.)	
EL SALVADOR.....	Exchange of notes of Nov. 2, 1937; in force Nov. 17, 1937.	Exchange of most-favoured-nation treatment. May be terminated on four months notice.
ETHIOPIA.....	Exchange of notes effective June 3, 1955.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
FINLAND.....	Exchange of notes of Nov. 13-17, 1948; effective Nov. 17, 1948. GATT effective May 25, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
FRANCE AND FRENCH OVERSEAS TERRITORIES.	Trade Agreement signed May 12, 1933; in force June 10, 1933. Exchange of notes of Sept. 29, 1934, and additional protocol of Feb. 26, 1935. GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment including scheduled concessions. May be terminated on three months notice.
GABON.....	Franco-Canadian Trade Agreement of 1933 applied to Gabon. GATT effective Aug. 17, 1960.	Exchange of most-favoured-nation treatment.
GERMANY, FEDERAL REPUBLIC OF.	GATT effective Oct. 1, 1951.	Exchange of most-favoured-nation treatment.
GREECE.....	<i>Modus vivendi</i> by exchange of notes of July 24-28, 1947. GATT effective Mar. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Sept. 15, 1967—continued**

Country	Agreement	Tariff Treatment
GREENLAND.....	(See Denmark.)	
GUATEMALA.....	Trade Agreement signed Sept. 28, 1937; in force Jan. 14, 1939.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
GUINEA.....	Franco-Canadian Trade Agreement of 1933 applied to Guinea.	Since the creation of Guinea as an independent state in 1958, Canada has continued to grant most-favoured-nation treatment.
HAITI.....	Trade Agreement signed Apr. 23, 1937; in force Jan. 10, 1939. GATT effective Jan. 1, 1950.	Exchange of most-favoured-nation treatment.
HONDURAS.....	Exchange of notes signed July 11, 1956, effective July 18, 1956. Ratified in Honduras Sept. 5, 1956.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
HUNGARY.....	Trade Agreement signed June 11, 1964 for three-year period.	Exchange of most-favoured-nation treatment continuing on interim basis pending conclusion of new Agreement.
ICELAND.....	Although there is no contractual obligation, Canada and Iceland adhere to the terms of a treaty originally concluded between Denmark and Britain on Feb. 13, 1660. Iceland has acceded to GATT provisionally.	Exchange of most-favoured-nation treatment.
INDONESIA.....	GATT effective Mar. 1, 1948.	Exchange of most-favoured-nation treatment.
IRAN.....	Special arrangement by Order in Council effective Feb. 1, 1951. Iran accorded most-favoured-nation treatment from Sept. 5, 1956.	Canada grants most-favoured-nation tariff rates as long as Iran accords reciprocal treatment.
IRAQ.....	Special arrangement by Order in Council effective Sept. 15, 1951.	Exchange of most-favoured-nation tariff treatment.
IRELAND.....	Trade Agreement signed Aug. 20, 1932; in force Jan. 2, 1933. Trade Agreement is at present under review in the light of Anglo-Irish Free Trade Agreement effective July 1, 1966.	Canada grants British preferential tariff in return for preferential rates where such exist and for most-favoured-nation rates on non-preferential items. May be terminated on six months notice.
ISRAEL.....	Canada-U.K. Agreement of 1937 continued to apply to the State of Israel after its foundation in May 1948. GATT effective July 5, 1962.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
ITALY.....	<i>Modus vivendi</i> by exchange of notes of Apr. 23-28, 1948; effective Apr. 28, 1948. GATT effective Jan. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
IVORY COAST.....	Franco-Canadian Trade Agreement of 1933 applied to the Ivory Coast. GATT effective Aug. 7, 1960.	Exchange of most-favoured-nation treatment.
JAPAN.....	Agreement on Commerce signed Mar. 31, 1954; effective June 7, 1954. GATT effective Sept. 10, 1955.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
KOREA, REPUBLIC OF.....	Trade Agreement signed Dec. 20, 1966, in force from date of signing. GATT effective Apr. 14, 1967.	Exchange of most-favoured-nation treatment. After initial three-year period, agreement may be terminated on three months notice.
KUWAIT.....	Canada-U.K. Agreement of 1937 applied to Kuwait as a British Protectorate. GATT effective June 18, 1961.	Since independence of Kuwait in June 1961, Canada has continued to accord most-favoured-nation treatment.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Sept. 15, 1967—continued**

Country	Agreement	Tariff Treatment
LAOS.....	Franco-Canadian Trade Agreement of 1933 applied to Laos.	Since the creation of Laos as an independent state in 1955, Canada has continued to grant most-favoured-nation treatment.
LEBANON.....	Special arrangement by Order in Council of Nov. 19, 1946.	Canada grants most-favoured-nation tariff rates as long as Lebanon accords reciprocal treatment.
LIBERIA.....	Special arrangement by Order in Council effective Mar. 1, 1955.	Canada grants most-favoured-nation treatment.
LIECHTENSTEIN.....	(See Switzerland.)	
LUXEMBOURG.....	(See Belgium-Luxembourg.)	
MALAGASY REPUBLIC.....	Franco-Canadian Trade Agreement of 1933 applied to Malagasy Republic. GATT effective June 25, 1960.	Exchange of most-favoured-nation treatment.
MALI, FEDERATION OF.....	Franco-Canadian Trade Agreement of 1933 applied to Mali. Mali maintains a <i>de facto</i> application of the GATT.	Since the creation of Mali as an independent state in 1960, Canada has continued to grant most-favoured-nation treatment.
MAURITANIA.....	Franco-Canadian Trade Agreement of 1933 applied to Mauritania. GATT effective Nov. 28, 1960.	Exchange of most-favoured-nation treatment.
MEXICO.....	Trade Agreement signed Feb. 8, 1946; in force provisionally same date. Ratifications exchanged on May 6, 1947; definitively in force 30 days from that date.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
MOROCCO.....	Various agreements relating to former French, Spanish and International Zones of Morocco.	Since the creation of Morocco as an independent state in 1956, Canada has continued to grant most-favoured-nation treatment.
NETHERLANDS.....	Convention of Commerce of July 11, 1924. Suspended during war; reinstated by exchange of notes Feb. 1 and 5, 1946. Includes Netherlands Antilles and Surinam. GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment. May be terminated on one years notice.
NICARAGUA.....	Trade Agreement signed Dec. 19, 1946; in force provisionally same date. GATT effective May 28, 1950.	Exchange of most-favoured-nation treatment.
NIGER.....	Franco-Canadian Trade Agreement of 1933 applied to Niger. GATT effective Aug. 3, 1960.	Exchange of most-favoured-nation treatment.
NORWAY.....	Convention of Commerce and Navigation with U.K. of Mar. 18, 1826, applied to Canada. GATT effective July 10, 1948.	Exchange of most-favoured-nation treatment. Convention of May 16, 1913 provides means for separate termination by Dominions on one years notice.
PANAMA.....	Order in Council of July 20, 1935, accepted Article 12 of U.K.-Panama Treaty of Commerce of Sept. 25, 1928. Treaty terminated in 1942.	While contractual obligation has expired, Canada and Panama continue to exchange most-favoured-nation treatment.
PARAGUAY.....	Exchange of notes of May 21, 1940; in force June 21, 1940.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
PERU.....	GATT effective Oct. 8, 1951.	Exchange of most-favoured-nation treatment.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Sept. 15, 1967—continued**

Country	Agreement	Tariff Treatment
PHILIPPINES.....	No agreement.	Canada and Philippines, without contractual obligation, continue to exchange most-favoured-nation treatment (excluding preferences accorded by the Philippines to the United States).
POLAND.....	Convention of Commerce signed July 3, 1935, in force Aug. 15, 1936. Although not a full member, Poland takes part in the work of GATT under a special arrangement.	Exchange of most-favoured-nation treatment including scheduled reductions. May be terminated on three months notice.
PORTUGAL, PORTUGUESE ADJACENT ISLANDS AND PORTUGUESE OVERSEAS PROVINCES.	Trade Agreement signed May 28, 1954 provisionally in effect July 1, 1954, definitively in force on ratification Apr. 29, 1955. GATT effective May 6, 1962.	Exchange of most-favoured-nation treatment. Remains in effect for two years from ratification and thereafter unless terminated on three months notice.
RWANDA.....	GATT effective Jan. 1, 1966.	Canada grants most-favoured-nation treatment.
SENEGAL.....	Franco-Canadian Trade Agreement of 1933 applied to Senegal. GATT effective June 20, 1960.	Exchange of most-favoured-nation treatment.
SOUTH AFRICA.....	Trade Agreement signed Aug. 20, 1932; in force Oct. 13, 1932.	Exchange of British preferential rates on scheduled items. May be terminated on six months notice.
	Exchange of notes Aug. 2-31, 1935; effective retroactively from July 1, 1935. GATT effective June 14, 1948.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
SPAIN AND SPANISH POSSESSIONS.	Since Aug. 1, 1928, Canada has adhered to U.K.-Spain Treaty of Commerce of Oct. 31, 1922.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
	Trade Agreement signed May 26, 1954, provisionally in effect July 1, 1954, definitively in force on ratification June 30, 1955. GATT effective Aug. 29, 1963.	Supplements and amends U.K.-Spain Treaty of Commerce. Remains in effect for three years from ratification, and thereafter unless terminated on three months notice.
SWEDEN.....	U.K.-Sweden Convention of Commerce and Navigation of Mar. 18, 1826 applies to Canada. GATT effective May 1, 1950.	Exchange of most-favoured-nation treatment. Declaration of Nov. 27, 1911 provides means for separate termination by the Dominions on one years notice.
SWITZERLAND.....	U.K.-Switzerland Treaty of Friendship, Commerce and Reciprocal Establishment of Sept. 6, 1855 applies to Canada. By exchange of notes Liechtenstein included under terms of this Agreement, effective July 14, 1947. GATT effective Aug. 1, 1966.	Exchange of most-favoured-nation treatment. Convention of Mar. 30, 1914 provides means for separate termination by the Dominions on one years notice.
SYRIAN ARAB REPUBLIC.....	Special Arrangement by Order in Council of Nov. 19, 1946.	Canada grants most-favoured-nation tariff rates as long as Syria accords reciprocal treatment.
Togo.....	Franco-Canadian Trade Agreement of 1933 applied to Togo. GATT effective Apr. 27, 1960.	Since the creation of Togo as an independent state in 1960, Canada has continued to grant most-favoured-nation treatment.
TUNISIA.....	Franco-Canadian Trade Agreement of 1933 applied to Tunisia. Tunisia has acceded to GATT provisionally.	Since the creation of Tunisia as an independent state in 1956, Canada has continued to grant most-favoured-nation treatment.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Sept. 15, 1967—concluded**

Country	Agreement	Tariff Treatment
TURKEY.....	Exchange of notes signed Mar. 1, 1948; in effect Mar. 15, 1948. GATT effective Oct. 17, 1951.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
UNION OF SOVIET SOCIALIST REPUBLICS.	Trade Agreement signed Feb. 29, 1956, renewed for another three years Apr. 18, 1960 and again for the same period on Sept. 16, 1963 and again for the same period on June 20, 1966 (the extension to be valid from Apr. 18, 1966).	Exchange of most-favoured-nation treatment and undertaking by U.S.S.R. to purchase a minimum of 6,375,000 long tons of wheat and flour during the three-year period of validity of the extended agreement.
UNITED ARAB REPUBLIC (EGYPT).	Exchange of notes Nov. 26 and Dec. 3, 1952; in force Dec. 3, 1952. The United Arab Republic has acceded provisionally to the GATT.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
UNITED STATES.....	Trade Agreement signed Nov. 17, 1938; suspended as long as both countries continue to be contracting parties to GATT. GATT effective Jan. 1, 1948.	Most-favoured-nation treatment exchanged.
UPPER VOLTA.....	Franco-Canadian Trade Agreement of 1933 applies to Upper Volta. GATT effective Aug. 5, 1960.	Exchange of most-favoured-nation treatment.
URUGUAY.....	Trade Agreement signed Aug. 12, 1936; in force May 15, 1940. Additional protocol signed Oct. 19, 1953. GATT effective Dec. 16, 1953.	Most-favoured-nation treatment.
VENEZUELA.....	<i>Modus vivendi</i> signed and brought into force Oct. 11, 1950.	Exchange of most-favoured-nation treatment. Made for one year subject to annual renewal.
VIET-NAM.....	Franco-Canadian Trade Agreement of 1933 applied to Viet-Nam.	Since the creation of Viet-Nam as an independent state in 1955, Canada has continued to accord most-favoured-nation rates.
YUGOSLAVIA.....	Trade Agreements Act of June 11, 1928, accepted Article 30 of U.K.-Serb-Croat-Slovene Treaty of Commerce and Navigation of May 12, 1927; in force Aug. 9, 1928. GATT effective Aug. 25, 1966.	Exchange of most-favoured-nation treatment.

PART IV.—TRAVEL BETWEEN CANADA AND OTHER COUNTRIES*

The amount of travel between Canada and other countries continued its upward trend in 1966 and, as would be expected, the largest exchange of travel was with the United States. Visitors to Canada from that country numbered 35,300,000 and Canadian residents returning from the United States totalled 34,700,000. Both figures were about 4 p.c. higher than for the previous year, similar to the increase shown between 1964 and 1965. At the same time, there was a very substantial increase in overseas travel. Canadians returning from visits to overseas countries numbered 502,925, some 10 p.c.

* Prepared in the Travel Statistics Section, Balance of Payments and Financial Flows Division, Dominion Bureau of Statistics.

more than in 1965. Overseas visitors entering Canada direct numbered 149,502, an increase of 12.5 p.c., and 261,261 came by way of the United States.

Expenditures by international travellers reached new records in 1966, mainly as a result of the increased volume. Money spent by foreign visitors in Canada and by Canadians in other countries are of importance to the travel industry and influence Canada's balance of payments position. In 1966, an estimated \$900,000,000 was spent by Canadians travelling abroad, 13.1 p.c. more than in 1965, and visitors to Canada from all countries spent \$840,000,000, an increase of 12.4 p.c. over the previous year. Thus, the balance of payments position was a little less favourable in the later year, the deficit on travel account with all countries amounting to \$60,000,000 compared with \$49,000,000 in 1965. This position was accounted for mainly by a higher deficit on account with overseas countries, since Canadians spent \$162,000,000 more overseas than overseas visitors spent in Canada; payments by Canadians were estimated at \$272,000,000, up 9.7 p.c. over 1965, and receipts from overseas visitors were \$110,000,000, up 26.4 p.c. On the other hand, a credit balance of \$102,000,000 was realized on travel account with the United States; Canadian payments totalled \$628,000,000, an increase of 14.6 p.c., and receipts from United States travellers in Canada amounted to \$730,000,000, a gain of 10.6 p.c. over 1965.

Travel Between Canada and the United States.—In 1966, 35,325,000 United States residents spent \$730,000,000 in Canada. The low average expenditure per person was attributable to the large number of short-term travellers who spent little during their visit. Persons entering and leaving Canada on the same day numbered 22,507,300, roughly 64 p.c. of the volume, but expenditures by this group were estimated at \$78,655,000 or only 11 p.c. of the total receipts. On the other hand, visitors staying one or more nights in Canada spent \$651,277,000, which was 89 p.c. of the total expenditures, although they formed only 36 p.c. of the entries from the United States.

The 26,868,100 residents of the United States who visited Canada by car in 1966 spent an estimated \$473,700,000. This was an increase in volume of 2.5 p.c. and an increase in expenditure of 7.8 p.c., indicating a larger outlay per person than in 1965. The number of persons entering by rail decreased again in 1966 but those coming by air, bus and boat increased 14, 11 and 7 p.c., respectively. The 710,000 travellers entering from the United States by air spent \$104,900,000, the 698,000 entering by bus spent \$77,100,000, the 552,000 entering by boat spent \$11,000,000 and the 344,000 coming by rail spent \$30,300,000. The main province of destination of United States travellers entering Canada by air, bus and rail was Ontario, as specified by 45 p.c. of those completing travel questionnaires. Quebec followed with 27 p.c. and British Columbia with 13 p.c.

Expenditures by Canadians for travel in the United States (excluding Hawaii) reached a record level in 1966 at an estimated \$616,200,000. Of the total 34,679,900 Canadians returning from the United States, 27,422,500 or 79 p.c. returned on the same day as they left Canada; these short-term travellers spent \$57,600,000 or 9 p.c. of the total payments, the remaining expenditures being made by persons staying one or more nights in the United States. Canadians travelling by automobile accounted for 81 p.c. of the total number and 58 p.c. of the total expenditures.

A questionnaire survey recording the purpose of trips of Canadians returning from the United States in 1966 showed the main reasons for travel to that country to be recreation or holiday, reported by 59.6 p.c., visits to friends or relatives by 24.8 p.c., and business by 8.4 p.c. Residents of Quebec reported the highest percentage of recreation trips at 68 p.c., Ontario accounted for the highest percentage of visits to friends or relatives at 32 p.c., and Alberta the highest percentage for business trips at 12 p.c.

1.—Number and Expenditure of United States Travellers in Canada and Canadian Travellers in the United States, 1957-66

Year	U.S. Travellers in Canada	U.S. Expenditure in Canada	Canadians Travelling in U.S.	Canadian Expenditure in U.S.	Excess of U.S. Travellers in Canada	Balance of Payments with the U.S.
	No.	\$'000	No.	\$'000	\$'000	\$'000
1957.....	28,619,400	325,000	27,209,400	403,000	+1,410,000	- 78,000
1958.....	28,530,700	309,000	27,421,700	413,000	+1,109,000	-104,000
1959.....	29,880,800	351,000	27,989,900	448,000	+1,890,900	- 97,000
1960.....	29,654,600	375,000	29,045,800	462,000 ¹	+ 608,800	- 87,000
1961.....	30,474,200	435,000	29,288,500	459,000 ¹	+1,185,700	- 24,000
1962.....	31,656,400	512,000	27,944,600	419,000 ¹	+3,711,800	+ 93,000
1963.....	31,864,800	549,000	29,389,800	388,000 ¹	+2,475,000	+161,000
1964.....	32,463,100	590,000	32,164,100	481,000 ¹	+ 299,000	+109,000
1965.....	33,887,300	660,000	33,433,400	548,000 ¹	+ 453,900	+112,000
1966.....	35,325,000	730,000	34,679,900	628,000 ¹	+ 645,100	+102,000

¹ Includes Hawaii.

2.—Number and Expenditure of United States Travellers in Canada and Canadian Travellers in the United States, by Means of Travel and Length of Stay, 1965 and 1966

Year and Item	U.S. Travellers in Canada ¹	U.S. Expenditure in Canada	Canadians Travelling in the U.S. ¹	Canadian Expenditure in the U.S.	Excess of U.S. Travellers in Canada	Excess of U.S. Expenditure in Canada
	No.	\$'000	No.	\$'000	No.	\$'000
1965						
Short-Term (entering and leaving the same day).....	21,999,200	72,709	27,191,100	56,387	-5,191,900	+ 16,322
Automobile.....	15,830,900	39,895	21,720,300	38,694	-5,889,400	+ 1,201
Aircraft.....	39,200	1,254	25,400	1,367	+ 13,800	- 113
Bus.....	125,600	843	20,200	253	+ 105,400	+ 590
Rail.....	192,000	400	7,600	85	+ 184,400	+ 315
Boat.....	304,400	1,707	17,700	64	+ 286,700	+ 1,643
Other (pedestrians, local bus, etc.)	5,507,100	28,610	5,399,900	15,924	+ 107,200	+ 12,686
Long-Term (remaining one or more nights).....	11,888,100	587,134	6,242,300	480,990	+5,645,800	+106,144
Automobile.....	10,372,700	399,706	4,860,400	266,188	+5,512,300	+133,518
Aircraft.....	584,900	90,847	611,300	129,788	- 26,400	- 38,941
Bus.....	505,300	54,637	469,000	53,326	+ 36,300	+ 1,311
Rail.....	215,400	33,242	208,800	29,227	+ 6,600	+ 4,015
Boat.....	209,800	8,702	92,800	2,461	+ 117,000	+ 6,241
Totals, 1965.....	33,887,300	659,843	33,433,400	537,377²	+ 453,900	+122,466
1966						
Short-Term (entering and leaving the same day).....	22,507,300	78,655	27,422,500	57,574	-4,915,200	+ 21,081
Automobile.....	15,829,300	41,710	22,494,500	42,099	-6,665,200	- 389
Aircraft.....	38,200	1,260	27,900	1,623	+ 10,300	- 363
Bus.....	120,000	971	20,800	457	+ 99,200	+ 514
Rail.....	148,000	279	3,900	82	+ 144,100	+ 197
Boat.....	213,400	1,527	24,300	79	+ 194,100	+ 1,448
Other (pedestrians, local bus, etc.)	6,153,400	32,908	4,851,100	13,234	+1,302,300	+ 19,674
Long-Term (remaining one or more nights).....	12,817,700	651,277	7,257,400	558,576	+5,560,300	+ 92,701
Automobile.....	11,038,800	432,019	5,763,500	318,095	+5,275,300	+113,924
Aircraft.....	671,600	103,686	676,600	149,169	- 5,000	- 45,483
Bus.....	577,900	76,084	530,900	59,695	+ 47,000	+ 16,389
Rail.....	196,200	30,017	172,600	28,336	+ 23,600	+ 1,681
Boat.....	333,200	9,471	113,800	3,281	+ 219,400	+ 6,190
Totals, 1966.....	35,325,000	729,932	34,679,900	616,150²	+ 645,100	+113,782

¹ Includes substantial amounts of in-transit, commuting and local traffic.² Excludes Hawaii.

3.—Highway Traffic at Canadian Border Points, 1965 and 1966

Year and Province or Territory	Foreign Vehicles Inward				Canadian Vehicles Returning		
	Entering and Leaving the Same Day	One or More Nights in Canada	Repeats and Taxis	Commercial Vehicles	Leaving and Returning the Same Day	One or More Nights in U.S.	Commercial Vehicles
	No.	No.	No.	No.	No.	No.	No.
1965							
Atlantic Provinces.....	318,317	203,076	938,885	53,215	2,014,465	129,248	107,330
Quebec.....	345,603	369,811	150,167	110,054	1,331,193	540,816	176,420
Ontario.....	3,503,907	2,809,470	830,153	241,328	3,711,129	616,565	352,021
Manitoba.....	57,237	63,526	64,425	17,750	164,419	74,761	22,104
Saskatchewan.....	29,069	32,418	16,236	13,488	79,727	28,177	8,637
Alberta.....	16,761	57,799	18,865	10,355	52,022	30,914	6,188
British Columbia.....	240,923	386,836	57,390	68,624	1,009,629	241,857	26,772
Yukon Territory.....	2,915	24,733	432	3,834	1,435	1,164	516
Totals, 1965.....	4,514,732	3,947,669	2,076,553	523,648	8,364,019	1,663,502	699,993
1966							
Atlantic Provinces.....	337,622	212,872	923,487	59,077	2,061,327	134,422	131,010
Quebec.....	362,634	373,613	146,501	100,413	1,386,422	633,702	175,271
Ontario.....	3,681,865	3,044,349	662,050	296,794	3,963,766	745,026	366,053
Manitoba.....	54,924	68,838	64,254	20,101	172,562	84,911	22,851
Saskatchewan.....	29,415	33,016	17,573	12,086	86,212	31,525	6,794
Alberta.....	19,449	62,601	19,706	11,505	56,341	37,647	6,275
British Columbia.....	268,718	433,012	59,833	72,781	1,010,299	270,738	28,313
Yukon Territory.....	3,383	28,684	516	3,617	1,177	1,320	472
Totals, 1966.....	4,753,010	4,256,985	1,893,920	576,379	8,738,106	1,939,291	737,039

Travel Between Canada and Overseas Countries.—As already mentioned, travel between Canada and overseas countries has been expanding at a proportionately greater rate than that between Canada and the United States. Non-immigrants entering Canada from overseas countries in 1966 numbered 410,763, of whom 149,502 came direct and 261,261 arrived by way of the United States. These visitors spent in Canada an estimated \$110,000,000, an increase of \$23,000,000 over 1965. Visitors from Britain spent \$39,000,000 or 35 p.c. of the total, those from other sterling areas spent \$12,000,000 or 11 p.c., from other Europe (OECD) \$36,000,000 or 33 p.c., and from other areas \$23,000,000 or 21 p.c.

Certain information concerning the travel habits of overseas visitors entering Canada direct was available in 1966. Of the total direct entries, 138,462 or 93 p.c. arrived by air and 11,040 or 7 p.c. by ship. During the year, 68,219 persons or 46 p.c. came direct to Canada from Britain, 49,549 or 33 p.c. from countries within the OECD, 11,971 or 8 p.c. from other Commonwealth countries, and 19,763 or 13 p.c. from all other countries. In response to a questionnaire survey in 1966, overseas visitors reported their main destinations as Ontario 34 p.c., British Columbia 26 p.c. and Quebec 25 p.c.; 66 p.c. gave visits to friends or relatives as the main reason for travel direct to Canada, 18 p.c. reported business, and 14 p.c. recreation. The average length of stay of overseas visitors was 26 days compared with 34 days in 1965. By area of residence, visitors from Britain stayed an average of 28 days in Canada, 43 p.c. gave Ontario as their main province of destination and 77 p.c. came to visit friends or relatives. In comparison, visitors from Continental Europe stayed an average of 29 days, 37 p.c. reported Quebec as their main destination and 59 p.c. came to visit friends or relatives.

Of the 502,925 Canadians returning from overseas countries in 1966, 422,925 came direct and 80,000 returned by way of the United States, representing increases of 9.5 p.c.

and 14.3 p.c., respectively. Gross expenditures of Canadian travellers overseas, estimated at \$386,000,000, included payments of \$106,000,000 to Canadian carriers for oceanic transportation, \$8,000,000 to United States carriers, and \$75,000,000 to overseas carriers. Net payments by Canadian travellers overseas, which is the sum of expenditures within overseas countries and the payments to overseas carriers, amounted to an estimated \$272,000,000, of which \$94,000,000 was spent in Britain, \$120,000,000 in Continental Europe, \$29,000,000 in other Commonwealth countries and \$29,000,000 in all other countries.

From replies to questionnaires completed by Canadians returning both direct and by way of the United States, the following main destinations overseas were estimated: Britain, 121,000; France, 90,000; Germany, 79,000; the Netherlands, 61,000; Switzerland, 56,000; and Italy, 50,000. In addition to the 121,000 visits to Britain only, some 101,000 visits were made to both Britain and other European countries. These figures represent *visits* to the various countries rather than *visitors* since many people visit several countries on the same trip. Visits to the Caribbean area, including Bermuda, were estimated at 71,000 and visits to Mexico at 29,000. Some 49 p.c. of Canadians returning direct from overseas countries reported recreation as their main reason for travel and 40 p.c. specified visits to friends or relatives. About 66 p.c. of the persons re-entering by way of the United States travelled for the purpose of recreation and only 17 p.c. for visits to friends or relatives. It is estimated that 50 p.c. of the Canadians returning direct were residents of Ontario, 20 p.c. of Quebec and 12 p.c. of British Columbia. Of the Canadians re-entering by way of the United States, 38 p.c. were residents of Ontario, 31 p.c. of Quebec and 17 p.c. of British Columbia. The average length of stay was 32 days for Canadians returning direct in 1966 and 24 days for those coming back by way of the United States.



Looking down toward the famous Percé Rock which rises out of the St. Lawrence Gulf like a sentinel guarding the picturesque little village of Percé on the east coast of Quebec's Gaspé Peninsula.



In the past two decades, annual expenditures by the Federal Government have increased fourfold. Within that period, vast new responsibilities have been undertaken—in supporting the old, the ill, the handicapped and the poor, in providing financial aid for projects of national value or of local value in the less-developed parts of the country, in providing financial assistance for technical and vocational training and for universities, in undertaking measures to improve the flexibility of the labour force, and in contributing to productivity and industrial development through research and the provision of basic facilities and services in many areas.

CHAPTER XXIII.—PUBLIC FINANCE*

CONSPECTUS

	PAGE		PAGE
SECTION 1. COMBINED STATISTICS OF PUBLIC FINANCE FOR ALL GOVERNMENTS.....	1005	Subsection 2. Public Accounts Statistics of Federal Government Finance.....	1029
SECTION 2. TAXATION IN CANADA.....	1008	Subsection 3. Revenue from Taxation.....	1034
Subsection 1. Federal Taxes.....	1011	SECTION 4. FEDERAL-PROVINCIAL CONDITIONAL GRANTS AND SHARED-COST PROGRAMS	1039
Subsection 2. Provincial Taxes.....	1019	SECTION 5. PROVINCIAL GOVERNMENT FINANCE.....	1046
Subsection 3. Municipal Taxes.....	1023	SECTION 6. MUNICIPAL GOVERNMENT FINANCE	1053
Subsection 4. Miscellaneous Levies.....	1024		
SECTION 3. FEDERAL GOVERNMENT FINANCE..	1025		
Subsection 1. DBS Statistics of Federal Government Finance.....	1025		

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

Combined statistics of public finance for all governments in Canada—federal, provincial and municipal—are presented in Section 1 of this Chapter and Section 2 covers the incidence of taxation at the three levels. More detailed information for each level of government is given in Sections 3, 5 and 6. Section 4 gives information on the rapidly growing list of joint federal-provincial programs and on the extent of federal financial participation in such programs.

Section 1.—Combined Statistics of Public Finance for All Governments

Tables 1 and 2 give details of the federal, provincial and municipal net combined revenue by source and net combined current and capital expenditure by function, respectively, for 1963 and 1964. This net basis has been prepared by deducting from revenue, and from the appropriate expenditure, certain specified amounts such as grants-in-aid and shared-cost contributions from other governments, institutional revenue, and interest, premium, discount and exchange revenue. Amounts provided for debt retirement are excluded to avoid duplication since all expenditure resulting from capital borrowings is included.

Inter-government transfers such as subsidy payments by the Federal Government to the provincial governments are unconditional grants and therefore cannot be offset against any specific expenditure. These are set out separately in Tables 1 and 2 in order to prevent duplication and to provide additive totals. Because of the differing accounting practices of governments and variations in fiscal year-ends, discrepancies appear between the amounts recorded as inter-government transfers in the two tables.

* Except as otherwise indicated, revised in the Governments Division, Dominion Bureau of Statistics.

1.—Combined Revenue of All Governments, 1963 and 1964

NOTE.—Figures are for fiscal years ended nearest Dec. 31.

Source	1963				1964			
	Federal	Pro- vincial	Munic- ipal	Total	Federal	Pro- vincial	Munic- ipal	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Taxes—								
Income—								
Corporations.....	1,374,708	412,236	—	1,786,944	1,669,065	455,076	—	2,124,141
Individuals.....	2,167,674	389,282	—	2,556,956	2,535,182	507,727	—	3,042,909
Income on certain payments and credits to non-residents.	124,500	—	—	124,500	143,718	—	—	143,718
General sales.....	1,277,815	562,021	58,080	1,897,916	1,587,761	725,709	1	2,313,470
Motor fuel and fuel oil sales....	—	539,007	861	539,868	—	616,077	1,064	617,141
Other sales.....	—	70,098	3,493	73,591	—	77,942	3,619	81,561
Excise duties and taxes.....	665,764	—	—	665,764	679,243	—	—	679,243
Customs import duties.....	581,441	—	—	581,441	622,102	—	—	622,102
Real and personal property....	—	9,089	1,621,785	1,630,874	—	10,254	1,803,980	1,814,234
Business.....	—	—	51,733 ²	51,733	—	—	54,635 ²	54,635
Estate taxes and succession duties.....	90,671	85,679	—	176,350	88,626	92,229	—	180,855
Other.....	219	197,883 ³	16,678	214,780	140	214,800 ³	12,632	227,572
Totals, Taxes.....	6,282,792	2,265,295	1,752,630	10,300,717	7,325,837	2,699,814	1,875,930	11,901,581
Privileges, Licences and Permits—								
Liquor control and regulation..	—	55,502	—	55,502	—	59,993	—	59,993
Motor vehicles.....	—	210,762	—	210,762	—	221,720	—	221,720
Natural resources.....	5,232	366,617	—	371,849	5,601	440,447	—	446,048
Other.....	23,633	36,421	31,907	91,961	22,382	38,811	34,148	95,341
Totals, Privileges, Licences and Permits.....	28,865	669,302	31,907	730,074	27,983	760,971	34,148	823,102
Sales and services.....	67,051	54,017	—	121,068	109,967	67,554	—	177,521
Fines and penalties.....	1,548	10,681	—	12,229	1,984	12,282	—	14,266
Contributions from Government Enterprises—								
Own Enterprises—								
Liquor boards and com- missions.....	—	232,877	—	232,877	—	250,531	—	250,531
Other.....	124,651	13,250	26,141	164,042	139,445	25,604	29,393	194,442
Federal and provincial in lieu of taxes.....	—	—	24,208	24,208	—	—	18,146	18,146
Other revenue.....	322,312	4,543	146,091	472,946	312,968	5,607	165,323	483,898
Non-revenue and surplus receipts.	27,695	10,009	—	37,704	21,900	10,962	—	32,862
Totals, Net General Revenue excluding Inter-government Transfers...	6,854,914	3,259,974	1,980,977	12,095,865	7,940,084	3,833,325	2,122,940	13,896,349
Inter-government Transfers—								
Federal-provincial fiscal arrangements.....	—	217,179	—	217,179	—	308,462	—	308,462
Subsidies.....	—	31,525	78,857	110,382	—	31,577	155,033	186,610
Share of income tax on power utilities.....	—	9,868	—	9,868	—	9,679	—	9,679
Compensation due to withdraw- al from joint programs.....	—	—	—	—	—	20,682	—	20,682
Crown corporations (provincial taxes and fees) ⁴	—	—	—	—	—	3,805	—	3,805
Special payments.....	—	—	1,740	1,740	—	—	1,941	1,941
Grants in lieu of municipal taxes on federal and provincial pro- perty.....	—	—	31,528	31,528	—	—	32,509	32,509
Grand Totals, Net General Revenue.....	6,854,914	3,518,546	2,093,102	12,466,562	7,940,084	4,207,530	2,312,423	14,460,037

¹ Sales tax previously administered by municipality in Quebec was assumed by the province in April 1964.² Incomplete; not separable from real property taxes in some provinces. ³ Includes hospital insurance premiums amounting to \$124,447,000 in 1963 and \$140,753,000 in 1964.⁴ This is a transitional payment. In the future, relevant taxes and fees will be paid by the Crown corporations concerned.

2.—Combined Expenditure of All Governments, 1963 and 1964

NOTE.—Figures are for fiscal years ended nearest Dec. 31.

Function	1963				1964			
	Federal	Pro- vincial	Munic- ipal	Total	Federal	Pro- vincial	Munic- ipal	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Defence services and mutual aid.	1,717,208	—	—	1,717,208	1,562,405	—	—	1,562,405
Veterans' pensions and other benefits.....	335,902	—	—	335,902	356,246	—	—	356,246
Health—								
Hospital care.....	429,517	582,490	28,221	1,040,228	470,826	733,858	30,772	1,235,456
Other.....	62,419	109,724	26,587	198,730	64,905	106,905	27,166	198,976
Totals, Health.....	491,936	692,214	54,808	1,238,958	535,731	840,763	57,938	1,434,432
Sanitation and waste removal...	—	—	183,471	183,471	—	—	190,704	190,704
Social Welfare—								
Aid to unemployed and unemployables.....	107,370	122,346	12,552	242,268	107,553	144,274	13,052	264,879
National employment and unemployment insurance services.....	110,290	—	—	110,290	116,443	—	—	116,443
Aid to blind and disabled persons.....	25,195	23,835	—	49,030	28,990	29,452	—	58,442
Old age assistance.....	39,401 ¹	46,735 ²	—	86,136	46,975 ¹	53,268 ²	—	100,243
Old age security fund.....	808,391 ³	—	—	808,391	885,294 ³	—	—	885,294
Other aid to the aged.....	—	31,349 ⁴	1,814 ⁵	33,163	—	28,270 ⁴	2,076 ⁵	30,346
Family allowances.....	541,321	—	—	541,321	550,764	—	—	550,764
Other.....	34,310	85,920	32,067	152,297	106,559 ⁶	116,453 ⁷	35,103	258,115
Totals, Social Welfare.....	1,666,278	310,185	46,433	2,022,896	1,842,578	371,717	50,231	2,264,526
Education.....	206,326	1,089,453	888,158	2,183,937	215,713	1,243,460	991,253	2,450,426
Transportation and Communications—								
Highways, roads and bridges..	81,565	784,512	404,251	1,270,328	130,701	846,390	386,594	1,363,685
Other.....	368,888	5,491	—	374,379	399,977	8,393	—	408,370
Totals, Transportation and Communications.....	450,453	790,003	404,251	1,644,707	530,678	854,783	386,594	1,772,055
Natural resources and primary industries.....	421,232	208,018	—	629,250	380,623	242,920	—	623,543
Debt charges (excluding debt retirement).....	822,851	122,505	200,700	1,146,056	791,455	134,915	220,416	1,146,786
Contributions to own government enterprises.....	149,475	3,789	27,397	180,661	181,713	2,555	28,473	212,741
Other Expenditure—								
General government.....	298,702	153,592	188,761	641,055	267,223	177,989	197,565	642,777
Protection of persons and property.....	99,126	172,100	298,543	569,769	137,670	188,598	321,281	647,549
International co-operation and assistance.....	74,621	—	—	74,621	107,758	—	—	107,758
Recreation and cultural services.....	34,500	29,632	106,181	170,313	44,734	34,108	115,330	194,172
Other.....	491,336 ⁸	87,429	154,653	733,418	566,464	92,543	179,510	838,517
Totals, Other Expenditure...	998,285	442,753	748,138	2,189,176	1,123,849	493,238	813,686	2,430,778
Non-expense and surplus payments.....	425	12,219	—	12,644	3,448	7,958	—	11,406
Totals, Net General Expenditure excluding inter-government transfers.....	7,260,371	3,671,139	2,553,356	13,484,866	7,524,439	4,192,309	2,739,295	14,456,043

For footnotes, see end of table, p. 1008.

2.—Combined Expenditure of All Governments, 1963 and 1964—concluded

Function	1963				1964			
	Federal	Pro- vincial	Munic- ipal	Total	Federal	Pro- vincial	Munic- ipal	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Inter-government Transfers—								
Federal-provincial fiscal								
arrangements ¹	217,329	—	—	217,329	312,473	—	—	312,473
Subsidies.....	31,525 ¹⁰	75,196	—	106,721	31,579 ¹⁰	160,720 ¹¹	—	192,299
Share of income tax on power								
utilities.....	9,868	—	—	9,868	9,679	—	—	9,679
Special payments.....	1,899	—	—	1,899	1,847	—	—	1,847
Grants in lieu of municipal taxes								
on federal and provincial prop-								
erty.....	31,920	4,030	—	35,950	36,447	4,085	—	40,532
Grand Totals, Net General								
Expenditure.....	7,552,912	3,750,365	2,553,356	13,856,633	7,916,464	4,357,114	2,739,295	15,012,873

¹ Federal payments to the provinces for the federal share under the Old Age Assistance Act. of old age assistance pensions to individuals. ² Old age security pensions to individuals.

than old age assistance pensions. ³ Consists largely of contributions to homes for the aged.

\$59,122,000 for winter works projects; these projects were formerly included in other expenditure.

\$18,838,000 for winter works projects; these projects were formerly included in other expenditure.

\$26,824,000 for winter works projects.

Newfoundland, Nova Scotia and New Brunswick and \$3,500,000 to Prince Edward Island.

tory subsidies and additional grant of \$8,000,000 to Newfoundland. ¹¹ Includes \$83,204,000 paid by the Province of Quebec to its municipalities as compensation in lieu of the right to impose local sales taxes.

⁴ All aid other than old age assistance pensions. ⁵ Includes ⁶ Includes ⁷ Includes ⁸ Includes ⁹ Includes ¹⁰ Includes statu-

Table 3 gives details of combined debt of all governments for 1963 and 1964 with the aggregate debt of the federal, provincial and municipal governments; the inter-government debt is deducted to arrive at a consolidated government figure.

Section 2.—Taxation in Canada*

Canada is a federal state with a central government and ten provincial governments. In 1867 the principal colonies of the British Crown in North America joined together to form the nucleus of a new nation and the British North America Act of that year became its written constitution. This statute created a central government with certain powers while continuing the existence of political subdivisions called provinces with powers of their own.

Under the British North America Act the Parliament of Canada has the right to raise "money by any mode or system of taxation" while the provincial legislatures are restricted to "direct taxation within the province in order to the raising of a revenue for provincial purposes". Thus the provinces have a right to share only in the field of direct taxation while the Federal Government is not restricted in any way in matters of taxation. The British North America Act also empowers the provincial legislatures to make laws regarding "municipal institutions in the province". This means that the municipalities derive their incorporation with its associated powers, fiscal and otherwise, from the provincial government concerned. Thus, municipalities are also limited to direct taxation.

A direct tax is generally recognized as one "which is demanded from the very person who it is intended or desired should pay it". This conception has limited the provincial governments to the imposition of income tax, retail sales tax, succession duties and an assortment of other direct levies. In turn, municipalities, acting under the guidance of provincial legislation, tax real estate, water consumption and places of business. The Federal Government levies direct taxes on income, on gifts and on the estates of deceased persons, and indirect taxes such as excise taxes, excise and customs duties, and a sales tax.

* Revised (December 1967) in the Tax Policy Division, Department of Finance, under the direction of F. R. Irwin, Director of the Division, and by the provincial authorities concerned.

3.—Consolidated Debt of All Governments, 1963 and 1964

NOTE.—Figures are for fiscal years ended nearest Dec. 31.

Item	1963					1964						
	Federal	Pro- vincial	Municipal	Total	Deduct Inter- government Debt	Consoli- dated Govern- ment Debt	Federal	Pro- vincial	Municipal	Total	Deduct Inter- government Debt	Consoli- dated Govern- ment Debt
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Direct Debt—												
Funded debt ¹	16,510,097	4,716,459	5,527,227	26,753,783	165,798	26,587,985	16,838,214	5,092,450	5,441,112	27,371,776	48,695	27,323,083
Less sinking funds.....	—	685,853	228,478	914,331	—	914,331	5,441	706,389	260,345	972,175	—	972,175
Net funded debt.....	16,510,097	4,030,606	5,298,749	25,839,452	165,798	25,673,654	16,832,773	4,386,061	5,180,767	26,399,601	48,695	26,350,906
Treasury bills ²	2,230,000	68,015	—	2,298,015	—	2,298,015	2,140,000	149,585	—	2,289,585	—	2,289,585
Savings deposits.....	24,605	—	—	24,605	—	24,605	—	—	—	—	—	—
Temporary loans.....	—	76,415	322,319	398,734	—	398,734	—	67,325	306,955	374,280	—	374,280
Other direct liabilities.....	6,985,901	683,114	567,886	8,236,901	236,834	8,000,067	7,371,661 ⁴	783,911	552,406	8,707,978	352,703	8,355,275
Totals, Direct Debt (less sinking funds).....	25,750,603	4,858,150	6,188,954	36,797,707	402,632	36,395,075	26,344,434	5,386,882	6,040,128	37,771,444	401,398	37,370,046
Indirect Debt—												
Guaranteed bonds and debentures.....	1,377,611	5,516,312	11,340	6,905,263	566,232	6,339,031	1,368,298	6,117,312	10,047	7,495,657	5,592,875	1,902,782
Less sinking funds.....	—	213,968	369	214,337	4,190	210,147	—	221,182	116	221,298	195,351	25,947
Net guaranteed bonds and debentures.....	1,377,611	5,302,344	10,971	6,690,926	562,042	6,128,884	1,368,298	5,896,130	9,931	7,274,359	5,397,524	1,876,835
Loans under the Municipal Improvement Assistance Act, 1938.....	—	1,116	—	1,116	1,116	—	—	937	—	937	937	—
Guaranteed bank loans and other indirect liabilities.....	5,110,628 ⁵	165,695	21	5,276,342	6,012	5,270,330	5,700,525	71,316	22	5,771,863	24,090	5,747,773
Totals, Indirect Debt (less sinking funds).....	6,488,237	5,469,155	10,992	11,968,384	569,170	11,399,214	7,068,823	5,968,383	9,953	13,047,159	5,422,551	7,624,608
Grand Totals.....	32,238,840	10,327,305	6,199,946	48,766,091	971,802	47,794,289	33,413,257	11,355,265	6,050,061	50,818,603	5,823,949	44,994,654

¹ Includes treasury bills having a term of two or more years.² Includes savings deposits and trust funds.³ Includes contingent liability in respect of Federal Government guarantee of deposits maintained by chartered banks in the Bank of Canada and miscellaneous guarantees, the amounts of which were not finally determined or were indeterminate at the close of the fiscal year.⁴ Includes treasury bills having a term of less than two years.⁵ Excludes contingent liability in respect of Federal Government guarantee of deposits maintained by chartered banks in the Bank of Canada and miscellaneous guarantees, the amounts of which were not finally determined or were indeterminate at the close of the fiscal year.

The increasing use by both the federal and the provincial governments of their rights in the field of direct taxation in the 1930s resulted in uneconomic duplication and some severe tax levies. Starting in 1941, a series of federal-provincial tax agreements were concluded to promote the orderly imposition of direct taxes. The duration of each agreement was normally five years. Under the earlier agreements, the participating provinces undertook, in return for compensation, not to use or permit their municipalities to use certain of the direct taxes. Under the present arrangements, the federal income tax otherwise payable in all provinces and the estate tax otherwise payable in three provinces are abated by certain percentages to make room for provincial levies.

The current arrangements became operative on Apr. 1, 1962 and were originally scheduled to terminate on Mar. 31, 1967, but have been extended to Mar. 31, 1969. They amount to a partial federal withdrawal from the field of direct taxation and a re-entry of all provinces into the vacated area. The federal personal income tax otherwise payable on income earned in a province and on income received by a resident of a province is reduced by the following percentages: 16 p.c. for 1962 income, 17 p.c. for 1963 income, 18 p.c. for 1964 income, 21 p.c. for 1965 income, 24 p.c. for 1966 income and 28 p.c. for 1967 and 1968 income.* The abatements in respect of income earned in Quebec or received by a resident of Quebec are 44 p.c. for 1965 income, 47 p.c. for 1966 income and 50 p.c. for 1967 and 1968 income. The additional points of abatement in Quebec are to allow that province to collect revenue to pay for certain programs that are paid for in whole or in part by the Federal Government in other provinces. The Federal Government also reduces its rate of corporation income tax on taxable income of corporations earned in the provinces. The reduction was 9 p.c. of taxable income earned in any province except Quebec and 10 p.c. of taxable income earned in Quebec for the years from 1962 to 1967. The additional 1-p.c. reduction in respect of taxable income earned in the Province of Quebec for these years was to compensate for the additional tax levied by the province during this period on corporation income to provide grants to universities. These provincial grants replaced federal grants which in other provinces were paid to the universities by the Federal Government through the Canadian Universities Foundation. For 1967 and 1968, with the termination of direct federal financial assistance to universities, the abatement of the federal rate of corporation income tax is 10 p.c. of taxable income in all provinces. The Federal Government also abates the federal estate tax otherwise payable by 75 p.c. in respect of property situated in a province that levies its own death tax.†

These reductions in federal income tax and estate tax do not apply to the Yukon Territory or the Northwest Territories or to income earned outside Canada. The Yukon and Northwest Territories do not impose income taxes or death taxes.

The provincial tax rates are not restricted to the extent of the federal withdrawal. The constitutional position of the provinces permits them unlimited use of direct taxes for the raising of revenue for provincial purposes. However, in five provinces (Prince Edward Island, Nova Scotia, New Brunswick, Alberta and British Columbia), the provincial rates of income tax do not exceed the federal abatement.

As part of the 1962-69 fiscal arrangements, the Federal Government has entered into tax collection agreements under which it collects the provincial personal income taxes for all provinces except Quebec and the provincial corporation income taxes for all provinces except Ontario and Quebec.

* The original agreement provided for abatements of 19 p.c. for 1965 income and 20 p.c. for 1966 income. However, in 1964 the provinces were granted an additional two percentage points for 1965 income and four percentage points for 1966 income and in 1966 they were granted an additional four percentage points for 1967 and 1968 income.

† The original agreement was for a 50-p.c. abatement but at the conclusion of a federal-provincial conference in late 1963 it was increased to 75 p.c. in respect of deaths occurring after Mar. 31, 1964. Currently, only the estates of domiciliaries of British Columbia qualify for the full 75-p.c. abatement. Quebec and Ontario estates are temporarily eligible for only 50 p.c. because they have elected for the time being to take a payment from the Federal Government on account of the additional 25-p.c. abatement rather than to increase their succession duty rates.

Subsection 1.—Federal Taxes**Individual Income Tax**

Personal income taxation in Canada is on the basis of residence rather than citizenship. Every individual who is resident in Canada at any time during a year is liable for the payment of income tax on all his income. Every non-resident individual who is employed or carries on business in Canada during a year is liable for tax on his income earned in Canada. The term "residence" is difficult to define simply but, generally speaking, it is taken to be the place where a person resides or where he maintains a dwelling ready at all times for his use. There are also extensions of the meaning of Canadian resident to include a person who has sojourned in Canada for an aggregate period of 183 days in a taxation year, or a person who was during the year a member of the Armed Forces of Canada or an ambassador, a high commissioner, or an officer or servant of Canada or of any one of its provinces, or the spouse or dependent child of any such person. The extended meaning of residence also includes employees who go from Canada to work under certain international development assistance programs.

The Canadian tax law uses the concepts "income" and "taxable income". The income of a resident of Canada for a taxation year comprises his revenues from all sources inside or outside Canada and includes income for the year from all businesses, property, offices and employments. It does not include capital gains unless they arise out of the conduct of a business or as a result of an adventure in the nature of trade.

In computing his income for a taxation year, an individual must include all dividends, fees, annuities, pension benefits, allowances, interest, alimony, maintenance payments and other miscellaneous sources of income. On the other hand, war service disability pensions paid by Canada or an ally of Her Majesty at the time of the war service, unemployment insurance benefits, compensation in respect of an injury or death paid under a Workmen's Compensation Act of a province and family allowances do not have to be included in the computation of income.

In computing his income for a taxation year, an individual who is carrying on business may deduct business expenses including depreciation (called capital cost allowances), interest on borrowed money, reserves for doubtful debts, contributions to pension plans or deferred profit-sharing plans for his employees, bad debts, and expenses incurred for scientific research. In general, no deductions are allowed in computing income from salary and wages, although there are exceptions such as travelling expenses of employees who have to travel as they perform their work (such as employees on trains), union dues, alimony payments and contributions to registered pension plans. Individuals may deduct, within limits, amounts set aside to provide a future income under registered retirement savings plans. Students attending universities, colleges, high schools, public schools or certain other certified educational institutions in Canada may deduct their tuition fees if they exceed \$25 per annum. Students in full-time attendance at universities outside Canada may deduct their tuition fees.

Having computed his income, the individual then calculates his taxable income by deducting certain exemptions and deductions. These exemptions and deductions are as follows: for single status, \$1,000; for married status, \$2,000; for dependent children eligible to receive family allowance,* \$300 per child; for other dependants (as defined in the law), \$550 per dependant; where the taxpayer is 70 years of age or over (or between 65 and 70

* Family allowances are monthly welfare payments by the Federal Government to the parents or guardians of children under 16 years of age. The allowance is \$6 for each child under 10 years of age and \$8 for each child between the ages of 10 and 16. These allowances are not subject to income tax. Payments are also made in respect of children between the ages of 16 and 18 in full-time attendance at educational institutions; such payments of \$10 a month are called youth allowances. The right to deduct \$550 for a dependent child is not affected by the receipt of these youth allowances.

years of age and not in receipt of an old age security pension), an additional \$500; where the taxpayer is blind or confined to a bed or a wheelchair, an additional \$500; charitable donations, up to 10 p.c. of income; and medical expenses, in excess of 3 p.c. of income. In lieu of claiming deductions for charitable donations and medical expenses, an individual may claim a standard deduction of \$100.

As already stated, an individual who is resident in Canada is taxed on his income from both inside and outside Canada. An individual who is not resident in Canada at any time during the year but who carries on business in Canada or who earns salary or wages in Canada is taxed only on the income earned in Canada. In computing taxable income earned in Canada, such a non-resident individual is allowed to deduct that part of the exemptions and deductions that may reasonably be attributed to the income earned in Canada. (A non-resident who derives investment income from Canada is taxed in a different way described on p. 1015.) An individual who ceases to be a resident of Canada during the year or who becomes a resident during the year so that he is resident for only part of the year will be subject to income tax in Canada on only that part of his income for the year received while he is resident in Canada. In these circumstances, the deductions from income permitted for determining taxable income will be the amount that may reasonably be considered as applicable to the period during which he is resident in Canada.

A progressive schedule of rates is applied to taxable income, beginning at 11 p.c. on the first \$1,000 of taxable income and increasing to 80 p.c. on taxable income in excess of \$400,000. In addition, an old age security tax is levied on taxable income at the rate of 4 p.c. with a maximum of \$240 reached at \$6,000 of taxable income.

After calculating income tax using this progressive schedule of rates, an individual is allowed a deduction from his tax under four main headings. (1) *Dividend Tax Credit*—to partially eliminate the double taxation of corporate profits and to encourage participation in the ownership of Canadian companies, Canadian resident individuals are allowed to deduct from their tax an amount equal to 20 p.c. of the net dividends they receive from Canadian taxable companies. (2) *Foreign Tax Credit*—foreign taxes paid on income from foreign sources may be credited against Canadian income tax but the credit may not exceed the proportion of Canadian tax related to such income. (3) *Abatement under Federal-Provincial Fiscal Arrangements*—in 1968 the federal personal income tax otherwise payable on income of a resident of a province and on income earned in a province is reduced by 28 p.c., except in the case of income earned in Quebec or received by a resident of Quebec where it is reduced by 50 p.c. (see p. 1010). (4) *General Tax Reduction*—in 1968 all individuals may deduct from their tax an amount equal to the lesser of 20 p.c. of their basic tax or \$20. "Basic tax" is personal income tax, excluding the old age security tax, after deduction of the dividend tax credit but before the abatement for provincial income tax.

A supplementary budget presented by the Minister of Finance on Nov. 30, 1967, announced that, effective Jan. 1, 1968, a surtax equal to 5 p.c. of basic tax in excess of \$100 is to be levied on personal income. This surtax is not to exceed \$600.*

To a very large extent, individual income tax is payable as the income is earned. Taxpayers in receipt of salary or wages have tax deducted from their pay by their employer and in this way pay nearly 100 p.c. of their tax liability during the calendar year. The balance of the tax, if any, is payable at the time of filing the tax return on or before Apr. 30 in the following year. Persons with more than 25 p.c. of their income from sources not subject to tax deductions must pay tax by quarterly instalments throughout the year and returns must be filed on or before Apr. 30 in the following year. Farmers and fishermen pay two thirds of their tax on or before Dec. 31 each year and the remainder on or before Apr. 30 in the following year.

* The Bill implementing the levying of this surtax was defeated in the House of Commons on Feb. 19, 1968; the surtax was subsequently (SC 1967-68 c. 38) set at 3 p.c.

The following statement shows what taxpayers pay (1968) at various levels of income. In calculating these taxes it has been assumed that all taxpayers take the standard deduction of \$100 and no allowance has been made for the 20-p.c. dividend tax credit.

<i>Status</i>	<i>Income</i>	<i>Income Tax</i>	<i>Old Age Security Tax</i>
	\$	\$	\$
Single taxpayer—no dependants.....	1,200	9	4
	1,500	35	16
	2,000	79	36
	2,500	149	56
	3,000	223	76
	5,000	595	156
	10,000	1,907	240
	20,000	6,091	240
	50,000	21,545	240
	100,000	51,435	240
Married taxpayer—no dependants.....	2,200	9	4
	2,500	35	16
	3,000	79	36
	5,000	398	116
	10,000	1,596	240
	20,000	5,619	240
	50,000	20,995	240
	100,000	50,785	240
Married taxpayer—two children eligible for family allowances.....	2,800	9	4
	3,000	26	12
	5,000	291	92
	10,000	1,432	240
	20,000	5,335	240
	50,000	20,665	240
	100,000	50,395	240

The income taxes shown above are the combined federal and provincial taxes in all provinces where the provincial tax is the same as the federal abatement (i.e., in all provinces except Quebec, Manitoba and Saskatchewan). In Quebec the provincial tax approximates the federal abatement; in Manitoba and Saskatchewan the provincial tax exceeds the abatement by five percentage points.

Corporation Income Tax

The Income Tax Act levies a tax upon the income from everywhere in the world of corporations resident in Canada and upon the income attributable to operations in Canada of non-resident corporations carrying on business in Canada. In computing their income, corporations may deduct operating expenses including municipal real estate taxes, reserves for doubtful debts, bad debts, and interest on borrowed money. They may not deduct provincial income taxes other than provincial taxes on income derived from mining operations. (For this purpose "income from mining operations" is specially defined.)

Regulations covering capital cost allowances (depreciation) permit taxpayers to deduct over a period of years the actual cost of all depreciable property. The yearly deductions of normal capital cost allowances are computed on the diminishing balance principle. (Taxpayers engaged in farming and fishing may choose between this and the straight-line method.) Published regulations establish a number of classes of property and maximum rates. There is provision for recapture of any amount allowed in excess of the ultimate net capital cost of any asset.

Expenditures on scientific research related to the business of the taxpayer may be written off for tax purposes in the year when incurred.

Taxpayers operating mines, oil wells, gas wells and wells for extracting potash by the solution method are allowed a depletion allowance, usually computed as a percentage of profits derived from mineral, oil or gas production, which continues as long as the mine or well is in operation. This allowance is in addition to capital cost allowances on buildings, machinery and similar depreciable assets used by the taxpayer and the deduction of explora-

tion and drilling expenses. Taxpayers operating timber limits receive an annual allowance sometimes called a depletion allowance. This is a rateable proportion of the amount invested in the limit and is based on the amount of timber cut in the year. When the amount invested in the limit has been recovered, no further allowance is given.

In computing taxable income, corporations may deduct dividends received from other Canadian taxpaying corporations and also from foreign corporations in which the Canadian corporation has at least 25 p.c. stock ownership. Business losses may be carried back one year or forward five years and deducted in computing taxable income. Corporations may also deduct donations to charitable organizations up to a maximum of 10 p.c. of their income.

The general rates of tax on corporate taxable income are 18 p.c. on the first \$35,000 of taxable income and 47 p.c. on taxable income in excess of \$35,000. Corporations deriving more than one half of their gross revenue from the sale of electric energy, gas or steam pay tax on their taxable income from such sources at the rate of 18 p.c. on the first \$35,000 of taxable income and 45 p.c. on taxable income in excess of \$35,000.* Corporations that qualify as investment companies pay a tax of 18 p.c. on their taxable income. In addition to these rates, all corporations pay an old age security tax of 3 p.c. of taxable income, bringing their rates up to 21 p.c. and 50 p.c. (21 p.c. and 48 p.c. for the public utility companies and 21 p.c. for investment companies).

In calculating the amount of their income tax, corporations are allowed a deduction from tax under three headings. (1) *Foreign Tax Credit*—foreign taxes paid on income from foreign sources may be deducted from Canadian income tax but the deduction may not exceed the proportion of Canadian tax relative to such income. (2) *Abatement under Federal-Provincial Fiscal Arrangements*—corporations may deduct from their federal tax otherwise payable a tax abatement equal to a fixed percentage of their taxable income attributable to operations in a Canadian province. This abatement is to make room for the provincial income tax levied by each Canadian province. The amount of the abatement is 10 p.c. of taxable income attributable to operations in each province. (3) *Provincial Logging Tax*—corporations may deduct from their federal tax otherwise payable an amount equal to two thirds of a provincial tax on income from logging operations not exceeding two thirds of 10 p.c. of the corporation's income from logging operations in the province. (At present only Ontario, Quebec and British Columbia impose logging taxes—see p. 1021.)

Income from the operation of a new mine, including wells for extracting potash by the solution method, is exempt from income tax during the first 36 months after coming into commercial production.

Corporations are required to pay their tax (combined income and old age security tax) in monthly instalments but the period during which they pay tax for a taxation year does not coincide with that taxation year. The supplementary budget presented on Nov. 30, 1967† announced a speed-up of corporation income tax payments to bring them more closely in line with the taxation year to which they relate. For taxation years beginning during the period Dec. 1, 1967 to Nov. 30, 1968, corporations are required to make monthly payments equal to one tenth of their estimated tax for the year (such estimate to be based on the taxable income of the previous year or on an estimated taxable income of the year in progress). These payments are to be completed by the last day of the second month following the close of the taxation year. This advances the payment schedule of corporation income tax by two months. Any balance of tax owing is to be paid by the last day of the third month following the close of the taxation year. For taxation years starting after Nov. 30, 1968, corporations will have to begin their monthly tax payments in the third month of their taxation year and to make their final instalment by the last day of the second month following the termination of the year. Each monthly remittance will be equal to one twelfth of the estimated tax for the year

* 95 p.c. of the federal tax collected from these corporations is remitted to the provinces.

† Implemented by Act of Parliament passed Mar. 15, 1968 (SC 1967-68, c. 38) which also levied a 3-p.c. surtax on corporation income.

(again based on either the taxable income of the previous year or the estimated taxable income of the year in progress). Any balance of tax outstanding will have to be paid by the last day of the third month following the close of the taxation year and the return for the year will have to be filed by the last day of the sixth month following the close of the taxation year.

Taxation of Non-residents

A non-resident is liable for payment of income tax if he was employed or was carrying on business in Canada during a taxation year. The expression "carrying on business in Canada" includes (1) maintaining a permanent establishment in Canada, (2) processing goods even partially in Canada, and (3) entering into contracts in Canada. The taxable income of a non-resident thus derived is taxed under the same schedule of rates as a Canadian resident (personal or corporation income tax rates as the case may be). (Tax treaties with some countries provide certain exemptions from tax for remuneration for services performed in Canada by residents or employees of these countries. They also prohibit Canada taxing profits of a non-resident enterprise unless that enterprise has a permanent establishment in Canada.)

Profits earned in Canada by a non-resident corporation carrying on business through a branch or permanent establishment in Canada are taxed at the regular rates of corporation income tax and are also subject to an additional tax of 15 p.c. This additional tax is imposed on profits attributable to the branch after deducting therefrom Canadian federal and provincial income taxes and an allowance in respect of the net increase in capital investment in property in Canada.

Furthermore, the Income Tax Act imposes a tax at the rate of 15 p.c. on certain forms of income going from Canada to non-resident persons. It applies to interest (other than interest on government bonds issued after Apr. 15, 1966, interest on certain bonds issued before Dec. 20, 1960 and interest paid to certain exempt lenders), dividends, rentals, royalties, income from a trust or estate and alimony, and applies whether the income goes to non-resident individuals or to corporations. The rate is reduced to 10 p.c. in the case of dividends paid by a company that has a degree of Canadian ownership* and is also 10 p.c. on royalties from motion picture films. This non-resident tax is withheld at the source by the Canadian payer. Non-residents who receive only this kind of income from Canada do not file returns in Canada.

Gift Tax

The Income Tax Act levies a tax upon gifts. The rates range from 10 p.c. on an aggregate taxable value of \$5,000 or under to 28 p.c. on an aggregate taxable value of over \$1,000,000. Exemptions include complete exemption of gifts of \$1,000 or less per donee and a general deduction of \$4,000 (in addition to the complete exemption of \$1,000 or less per donee) from aggregate taxable value of gifts made in the year.

Estate Tax

This tax applies to property passing, or deemed to pass, at death. All the property of persons who were domiciled in Canada before their death must be taken into consideration no matter where that property is situated; for persons dying domiciled outside of Canada only their property situated in Canada is subject to tax.

In computing the tax of a Canadian domiciliary, the value of the whole estate is first determined. Once the aggregate value of the estate has been determined, estate debts and certain expenses may be deducted. From the resulting "aggregate net value" there may be deducted the amount of a basic exemption, which is increased where the deceased

* Generally, a corporation is regarded as having a degree of Canadian ownership where 25 p.c. of its equity and voting shares are owned by Canadians and/or corporations controlled in Canada, or where the voting shares of the corporation are listed on a Canadian stock exchange and no more than 75 p.c. of its issued outstanding voting shares are owned by a non-resident alone or in combination with related persons.

leaves a widow or dependent child, and also the amount of any charitable bequests to charitable organizations in Canada. After these deductions the amount left is the "aggregate taxable value" to which are applied the tax rates. From the tax so calculated may be deducted (1) a tax abatement in respect of property situated in a province that levies a succession duty, (2) a credit for gift tax paid on gifts made within three years of death (the value of which must be included in the aggregate net value of the estate), and (3) a credit for foreign taxes.

If an estate is valued at \$50,000 or less, no tax is exacted; this figure of \$50,000 is not a deductible exemption but simply an amount at or below which no tax is levied. If an estate is valued at more than \$50,000, it may or may not be taxable, depending on its size and the exemptions and deductions for which it qualifies, but in no case must the tax reduce the value of the estate after tax to less than \$50,000. The deductible exemption is \$60,000 in respect of a deceased male survived by a spouse or in respect of a deceased female survived by an incapacitated spouse and a dependent child. In both cases there is an additional exemption of \$10,000 for each surviving child who is dependent (generally, under age 21). In all other cases the exemption is \$40,000 but if the deceased is survived by a dependent child (an orphan), there is an additional exemption of \$15,000 in respect of each orphan.

The tax on the estates of Canadian domiciliaries is calculated by applying a graduated scale of rates. For an aggregate taxable value of \$5,000, or less, the rate is 10 p.c. For an aggregate taxable value of \$100,000, the tax is \$19,000 and anything between \$100,000 and \$150,000 is taxed at 24 p.c. At \$2,000,000 of taxable value, the tax is \$816,500 and the excess over \$2,000,000 is chargeable at the highest rate of 54 p.c.

As stated previously, there is an abatement from federal estate tax otherwise payable in respect of provincial succession duties. The abatement is a deduction of 75 p.c. from the federal tax otherwise payable in respect of property situated in a province that levies succession duties (see footnote, p. 1010).

The property situated in Canada of a deceased person not domiciled in Canada is subject to estate tax at a flat rate of 15 p.c. No deduction is allowed against the assessed value of such property except for debts specifically chargeable to it. However, there is a special provision that exempts all such property of less than \$5,000 value and also provides that the tax must not reduce the value of the property to less than \$5,000. (The Estate Tax Convention between Canada and the United States increases this figure to \$15,000.) Where property is subject to provincial duties, the 15-p.c. tax is abated by 75 p.c. (see footnote, p. 1015).

Excise Taxes

The Excise Tax Act levies a general sales tax and special excise taxes. Both the sales tax and the special excise taxes are levied on goods imported into Canada and on goods produced in Canada. They are not levied on goods exported. The sales tax, which is at the rate of 9 p.c., is levied on the manufacturer's sale price of goods produced or manufactured in Canada or on the duty-paid value of goods imported into Canada. For alcoholic beverages and tobacco products, the sale price for purposes of the sales tax includes excise duties levied under the Excise Act (see p. 1017). An old age security tax of 3 p.c. is levied on the same basis as the 9-p.c. tax, bringing the total sales tax to 12 p.c.

Many classes of goods are exempt from sales tax. Foodstuffs, drugs, electricity and fuels for lighting or heating are generally exempt as are articles and materials used by public hospitals and certain welfare institutions. The products of farms, forests, mines and fisheries are, to a large extent, exempt as well as most equipment used in farming and fishing. Production machinery and equipment and materials consumed or expended in production are not taxed. Also, a variety of items are exempt from sales tax when purchased by municipalities. These and other exemptions are set forth in schedules to the Excise Tax Act.

A number of articles are subject to special excise taxes in addition to the sales tax. Where these are ad valorem taxes they are levied on the same price or duty-paid value as the general sales tax. Those levied at present are as follows:—

Cigarettes.....	3 cents per 5 cigs.
Cigars.....	17½ p.c. ad valorem
Jewellery, including clocks, watches, articles of ivory, amber, shell, precious or semi-precious stones, goldsmiths' and silversmiths' products except gold-plated or silver-plated ware for the preparation or serving of food or drink.....	10 p.c. ad valorem
Lighters.....	10 cents per lighter
Playing cards.....	20 cents per pack
Radios.....	the greater of \$2 per radio or 15 p.c. ad valorem
Phonographs and television sets.....	15 p.c. ad valorem
Tubes for radios, phonographs and television sets, not including television picture tubes, priced under \$5 per tube.....	10 cents per tube
Television set picture tubes.....	15 p.c. ad valorem
Slot machines—coin, disc or token-operated games or amusement devices.....	10 p.c. ad valorem
Matches.....	10 p.c. ad valorem
Tobacco—pipe tobacco, cut tobacco and snuff.....	90 cents per lb.
Tobacco pipes, cigar and cigarette holders and cigarette rolling devices.....	10 p.c. ad valorem
Toilet articles, including cosmetics, perfumes, shaving creams, antiseptics, etc.....	10 p.c. ad valorem
Wines—	
Manufactured in Canada—*	
Wines of all kinds containing not more than 7 p.c. absolute alcohol by volume.....	25 cents per gal.
Non-sparkling wines containing more than 7 p.c. absolute alcohol by volume but not more than 40 p.c. proof spirit.....	50 cents per gal.
Sparkling wines.....	\$2.50 per gal.
Additional tax applying to all wines whether imported or produced in Canada—	
Wines of all kinds containing not more than 7 p.c. of absolute alcohol by volume.....	2½ cents per gal.
Wines of all kinds containing more than 7 p.c. of absolute alcohol by volume.....	5 cents per gal.
Insurance premiums paid to British or foreign companies not authorized to transact business in Canada or to non-resident agents of authorized British or foreign companies.....	10 p.c. of net premium for property, surety, fidelity and liability insurance. (Most other kinds of insurance are exempt.)

All the foregoing items, except the last, are also subject to the general sales tax of 9 p.c. and the old age security tax of 3 p.c. Cigarettes, cigars and tobacco are subject to further taxes, referred to as excise duties (see p. 1018).

Excise Duties

The Excise Act levies taxes (referred to as excise duties) upon alcohol, alcoholic beverages and tobacco products produced in Canada. These duties are not levied on imported goods but the customs tariff on these products includes a levy to correspond with the duties levied on domestic production. These duties are not levied on goods exported.

Spirits.—The duties are on a per-gallon basis in proportion to the strength of proof of the spirits. These duties do not apply to denatured alcohol intended for use in the arts and in industry, or for fuel, light or power, or for any mechanical purpose. The various duties are as follows:—

On every gallon of the strength of proof distilled in Canada.....	\$14.25
On every gallon of the strength of proof used in the manufacture of—	
Medicines, extracts, pharmaceutical preparations, etc.....	\$1.50 per gal.
Approved chemical compositions.....	15 cents per gal.
Spirits sold to a druggist and used in the preparation of prescriptions.....	\$1.50 per gal.
Imported spirits when taken into a bonded manufactory in addition to other duties.....	30 cents per gal.
Approved chemical compositions.....	15 cents per gal.
Spirits sold to a druggist and used in the preparation of prescriptions.....	\$1.50 per gal.
Imported spirits when taken into a bonded manufactory, in addition to other duties.....	30 cents per gal.

* The customs tariff on wines includes a levy to correspond to these taxes on domestic production.

Canadian Brandy.—Canadian brandy, a spirit distilled exclusively from juices of native fruits without the addition of sweetening materials, is subject to a duty of \$12.25 per gallon.

Beer.—All beer or other malt liquor is subject to a duty of 42 cents per gallon.

Tobacco, Cigars and Cigarettes.—The excise duties make up nearly as large a part of the total tax on tobacco products as the special excise taxes already described. The rates are as follows:—

On manufactured tobacco of all descriptions, except cigarettes.....	35 cents per lb.
Cigarettes weighing not more than 3 lb. per thousand (nearly all of the cigarettes used in Canada are of this type).....	\$4.00 per thousand
Cigarettes weighing more than 3 lb. per thousand.....	\$5.00 per thousand
Cigars.....	\$2.00 per thousand
Canadian raw leaf tobacco when sold for consumption.....	10 cents per lb.

Combined Effect of Excise Taxes and Excise Duties on Tobacco Products

Bringing together the taxes imposed on tobacco products under the Excise Tax Act and the duties imposed under the Excise Act gives the following total taxes:—

Cigarettes.....	\$10.00 per thousand (or 20 cents per pack of 20 cigarettes) plus the 12-p.c. sales tax on the manufacturer's sale price
Manufactured tobacco.....	\$1.25 per lb. plus the 12-p.c. sales tax on the manufacturer's sale price
Cigars.....	\$2.00 per thousand plus the 17½-p.c. special excise tax and the 12-p.c. sales tax on the manufacturer's sale price.

Customs Duties*

Most goods imported into Canada are subject to customs duties at various rates as provided by tariff schedules. Customs duties, which once were the chief source of revenue for the country, have declined in importance as a source of revenue to the point where they now provide less than 10 p.c. of the total. Quite apart from its revenue aspects, however, the tariff still occupies an important place as an instrument of economic policy.

The Canadian Tariff consists mainly of three sets of rates, namely, British Preferential, Most-Favoured-Nation and General. The British Preferential rates are, with some exceptions, the lowest rates. They are applied to imported dutiable commodities shipped directly to Canada from countries within the Commonwealth. Special rates lower than the ordinary preferential duty are applied on certain goods imported from designated Commonwealth countries.

The Most-Favoured-Nation rates apply to goods from countries that have been accorded tariff treatment more favourable than the General Tariff but which are not entitled to the British Preferential rate. Canada has Most-Favoured-Nation arrangements with almost every country outside the Commonwealth. The most important agreement providing for the exchange of Most-Favoured-Nation treatment is the General Agreement on Tariffs and Trade.

The General Tariff applies to imports from countries not entitled to either the Preferential or Most-Favoured-Nation treatment. Few countries are in this category and, in terms of trade coverage, are negligible.

In all cases where the tariff applies there are provisions for drawbacks of duty on imports of materials used in the manufacture of products later exported. The purpose of these drawbacks is to assist Canadian manufacturers to compete with foreign manufacturers of similar goods. There is a second class of drawbacks known as "home consumption" drawbacks. These apply to imported materials used in the production of specified classes of goods manufactured for home consumption.

The tariff schedules are too lengthy and complicated to be summarized here but the rates that apply on any particular item may be obtained from the Department of National Revenue, which is responsible for administering the Customs Tariff.

* See also pp. 990-991.

Subsection 2.—Provincial Taxes

All of Canada's ten provinces impose a wide variety of taxes to raise the revenue necessary for provincial purposes. All provinces levy a tax on the income of individuals and corporations resident within their boundaries or deriving income from activities or operations carried out therein. Only the Provinces of Ontario and Quebec impose special taxes on corporations in addition to income tax and only the Provinces of Ontario, Quebec and British Columbia impose a tax on property passing at death; the remaining provinces receive payment from the Federal Government of their 75-p.c. share of estate tax levies. Under the terms of the existing federal-provincial fiscal arrangements, the Federal Government makes "equalization payments" to some provinces in recognition of the fact that the potential tax yield in those provinces, measured on a per capita basis, is lower than the national per capita tax yield. For some provinces the equalization payments constitute a very important source of revenue.

Some of the more important provincial levies are reviewed briefly on this and following pages.

Individual Income Tax

All provinces levy a tax on the income of individuals who reside within their boundaries or who earn income therein. In nine of the ten provinces, these taxes are computed as a percentage of federal "basic tax". As previously explained, "basic tax" is federal income tax (excluding old age security tax) otherwise payable at full federal rates before the abatement under the Federal-Provincial Fiscal Arrangements and before allowance for the federal tax reduction passed in 1966. These provincial taxes are collected by the Federal Government on behalf of these provinces. In Quebec, provincial income tax is levied at graduated rates that progress from 5.5 p.c. on the first \$1,000 of taxable income to a maximum of 40.0 p.c. on the excess over \$400,000. The determination of taxable income for Quebec tax is based on exemptions and deductions which, with the exception of deductions for dependent children eligible for family allowances,* are similar to those for federal tax. Quebec taxpayers whose net income does not exceed \$4,000 if married or in a situation recognized as equivalent and \$2,000 in other cases are exempt from payment of the tax. If the taxpayer's income exceeds such amounts, the tax to be paid will not reduce his income to less than \$4,000 or \$2,000 as the case may be. The Province of Quebec collects its own tax.

The percentages that provincial income tax liability is of federal "basic tax" for 1967 are: Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Alberta and British Columbia each 28 p.c., Quebec approximately 50 p.c., and Manitoba and Saskatchewan each 33 p.c.

Corporate Income Tax

All provinces levy a tax on the profits of corporations derived from activities carried out within their boundaries. In all provinces except Ontario and Quebec the provincial tax imposed on taxable income in the province is determined on the same basis as for federal income tax. In Ontario and Quebec the determination of taxable profits for purposes of provincial tax follows closely the federal rules. The rate of tax in Prince Edward Island, Nova Scotia, New Brunswick, Alberta and British Columbia is 10 p.c. of corporate taxable income. The rate that applies in Newfoundland, Manitoba and Saskatchewan is 11 p.c., and in Ontario and Quebec 12 p.c.

Five of the ten provinces levy corporate income taxes at rates in excess of the abatement allowed by the Federal Government. This abatement is equal to 10 p.c. of corporate profits for all provinces. All provinces except Ontario and Quebec have signed agreements for the collection of their income taxes by the Federal Government.

* Quebec has a family allowance program which supplements the federal program; it provides for allowances that increase from \$30 per annum for a first child to a maximum of \$70 per annum for a sixth and for each additional child. The Quebec program is in lieu of exemptions for provincial income tax purposes for children eligible for family allowances.

Taxes on Alcoholic Beverages and Tobacco

Generally speaking, the sale of spirits in all provinces is made through provincial agencies operating as boards or commissions which exercise monopolistic control over alcoholic beverages. The provincial mark-up over the manufacturer's price is the effective means of taxation. Beer and wine may be sold by retailers or government stores, depending on the province, but in all cases these sales contribute to provincial revenues.* The Province of Prince Edward Island imposes a tax of 10 p.c. on all beer, wine and spirits sold at retail, collected under authority of the Health Tax Act.

Newfoundland imposes a tax on tobacco sold at retail of one quarter of one cent per cigarette purchased; from one to five cents per cigar, depending on price; and one cent per half ounce or less of other tobacco. Prince Edward Island's tax on tobacco sold at retail is one fifth of one cent per cigarette purchased; from one to three cents per cigar, depending on price; and 10 p.c. of the retail price of all other tobacco purchased. Nova Scotia charges a 5-p.c. hospital tax on all alcoholic beverages. Saskatchewan's tax on retail tobacco sales is one fifth of one cent per cigarette purchased; from one to five cents per cigar, depending on price; and one cent on every half ounce of other tobacco; the average rate of the tobacco tax is 10 p.c. Specific sales taxes on tobacco products are also levied in New Brunswick, Quebec, Manitoba and Ontario.

Retail Sales Taxes

Retail sales taxes are levied on the final purchaser or user and are collected by the retailer. All provinces except Alberta levy this type of tax at rates varying from 5 p.c. to 8 p.c. These direct levies apply to tangible taxable commodities sold, with varying exemptions, for consumption in the province and to a few selected services, for example: to telephone services in all provinces; in Quebec to telecommunications, meals and hotel and motel charges; in Newfoundland, since January 1967, to consumers engaged in the construction of the Northumberland Strait Crossing; and in Manitoba to a broad range of services including dry cleaning, furniture repairs, motel accommodation, etc. The sales taxes do not apply to goods sold for delivery in other provinces or to exported commodities. All provinces imposing sales taxes provide comprehensive exemptions for foodstuffs and drugs.

Amusement Taxes

Each of the provinces with the exception of Alberta, Saskatchewan, British Columbia and Quebec has a tax on admission to places of entertainment. In addition, there is generally a licence fee imposed on the operator or owner of these amusement places. The tax on admissions is within the range of 5 p.c. to 15 p.c. In Newfoundland it is five cents per admission regardless of the admission price.

Gasoline and Diesel Fuel Oil Taxes

Each of the ten provinces imposes a tax on the purchase of gasoline by motorists and truckers. The rates vary from 12 cents per gallon in Alberta to 19 cents in Nova Scotia and Newfoundland. The amount of tax borne by one gallon of motor vehicle fuel in each province is as follows:—

Gasoline	Diesel Fuel		Gasoline	Diesel Fuel
cts.	cts.		cts.	cts.
Newfoundland.....	20		Ontario†.....	16
Prince Edward Island**	18		Manitoba.....	17
Nova Scotia.....	19		Saskatchewan†.....	15
New Brunswick.....	18		Alberta.....	12
Quebec.....	16		British Columbia...	13
				15

* The provincial mark-up over the manufacturer's price is not considered a "tax" in DBS financial statistics, but forms part of the "profits of government business enterprises".

** Gasoline and diesel fuel used by primary producers—farmers, fishermen, manufacturers and processors—is exempt from tax as is also gasoline and motor fuel used by owners or operators of registered pleasure craft and skis-tows, and that used by consumers engaged in the construction of the Northumberland Strait Crossing.

† Some relief from taxation is given where gasoline or fuel oil is used for farming, manufacturing, commercial fishing and other off-highway purposes.

‡ Gasoline and diesel fuel used by farmers in farm trucks are exempt from tax.

†† Generally, fuel oil used for agricultural and industrial purposes is exempt from tax.

The British Columbia net tax rate (after refund) on gasoline used in logging trucks off highway, in power units of motor vehicles for stationary industrial use, and in vehicles used by amputees, paraplegics and certain war disability pensioners is one cent per gallon. Gasoline coloured purple for certain off-highway use (including marine) and motor fuels, being any fuel except gasoline not consumed on provincial highways, is also taxed at one cent per gallon. Fuel oil used for heating purposes is taxed at one half cent per gallon.

Motor Vehicle Licences and Fees

Each province levies a fee on the annual registration of motor vehicles, which is compulsory. Upon registration a vehicle is issued with licence plates. The rates of fee vary from province to province and, in the case of passenger cars, may be assessed on the weight of the vehicle, the wheel base, the year of manufacture, the number of cylinders of the engine, or at a flat rate. The fees for commercial motor vehicles and trailers are based on the gross weight for which the vehicle is registered, i.e., the weight of the vehicle empty plus the load it is permitted to carry. Every operator or driver of a motor vehicle is required to register periodically and pay a fee for a new driver's licence. The licences are valid for periods of from one to five years and the fees vary from \$1 to \$7 a year.

Taxes on Mining Operations

All provinces except Prince Edward Island levy taxes of various kinds on mining operations. All provinces except Prince Edward Island and Alberta impose a tax on the income of firms engaged in mining operations in general or in specific kinds of mining operations. The Provinces of British Columbia, Alberta, Saskatchewan and Manitoba impose a tax on the assessed value of minerals or a flat rate per acre of mining property. Ontario imposes a tax on the profit on the assessed value of minerals and a flat rate per acre of mining property. Manitoba imposes rates of from 6 p.c. to 11 p.c. on mining royalties. The British Columbia mining tax rate is 10 p.c. on net income from mining in excess of \$25,000; new mines are exempt for three years.

Tax on Logging Operations

The Provinces of Quebec, Ontario and British Columbia levy a tax on the income from logging operations of individuals, partnerships, associations or corporations engaged in this activity. In Quebec and Ontario the rate is 10 p.c. on net income where in excess of \$10,000 (in Quebec if the net income is greater than \$10,000 the whole amount is taxable with no basic exemption) and in British Columbia the logging tax allowed as a deduction from the provincial corporate income tax was increased from 18 p.c. to 20 p.c. effective in the 1967 taxation year. In Ontario and Quebec one third and in British Columbia 18 p.c. of the tax is allowed as a deduction from provincial corporate income tax or, in Quebec, from the provincial income tax; the remainder is deductible from federal income tax.

Business Taxes

The Province of Quebec imposes a tax of one tenth of 1 p.c. on paid-up capital of corporations and Ontario levies a similar tax at the rate of one twentieth of 1 p.c.

The Provinces of Quebec and Ontario have a place-of-business tax. In Quebec, the tax is generally \$50 but is reduced to \$25 when the paid-up capital is less than \$25,000; in the case of loan companies, the tax is \$100 when capital paid up is \$100,000 or more. In Ontario, the tax for each permanent establishment is the lesser of \$50 or one twentieth of 1 p.c. of the paid-up capital of the corporation involved, but the total of the capital tax and the place-of-business tax cannot be less than \$20. Ontario also imposes an office tax of \$50 on every corporation that does not maintain a permanent establishment in the province but merely maintains a buying office, or merely holds certain provincial licences, or merely holds assets. A corporation that does not maintain a permanent establishment in Ontario

but is represented by a resident employee or agent who is not deemed to operate a permanent establishment of the corporation in the province must pay an office tax of \$50 or one tenth of 1 p.c. of the total amount of its gross Ontario sales or revenue if less than \$50,000, subject to a minimum office tax of \$5.

Both provinces levy special taxes on certain kinds of companies such as banks, railway companies, express companies, trust companies and sleeping-car, parlour-car and dining-car companies. In Ontario, these special taxes (except the tax payable by insurance corporations calculated on gross premiums) and the capital and place-of-business taxes are payable only to the extent that they exceed the corporate income tax otherwise payable.

The Province of Prince Edward Island charges special annual licence fees to most insurance companies, banks, acceptance companies, chain theatres and chain stores, steamship companies, telephone, telegraph and electric light companies and brokers, as well as nominal licence fees to other incorporated companies, the latter being similar to filing fees in other provinces.

Land Transfer Taxes

The Provinces of Ontario, Manitoba and Alberta levy a tax based on the price at which ownership of land is transferred. In Ontario, one fifth of 1 p.c. is imposed on the purchase price up to \$25,000 and two fifths of 1 p.c. on anything in excess of that amount. In Manitoba the rate is 1 p.c. In Alberta, registration fees proportionate to the conveying services rendered are charged and in the case of transfers and mortgages the fees are assessed on the value of the land transferred as on the amount of the mortgage. In addition, there is an Assurance Fund fee charged on transfers and mortgages which guarantees titles in certain circumstances. In Quebec, a tax of $2\frac{1}{2}$ p.c. of the purchase price is imposed only when property is transferred under the Bankruptcy or Winding-Up Act. British Columbia and Saskatchewan do not have a land transfer tax but have an equivalent in land title fees which are based on land values.

Tax on Security Transfers

The Provinces of Ontario and Quebec levy a tax on the sale price of securities transferred; the rates in both provinces are:—

Shares sold, transferred or assigned valued at—

Under \$1.....	$\frac{1}{10}$ th of 1 p.c. of value
\$ 1 to \$ 5.....	$\frac{1}{2}$ cent per share
\$ 5 to \$ 25.....	1 cent per share
\$25 to \$ 50.....	2 cents per share
\$50 to \$ 75.....	3 cents per share
\$75 to \$150.....	4 cents per share
Over \$150.....	4 cents per share plus $\frac{1}{10}$ th of 1 p.c. of value in excess of \$150
Bonds and debentures.....	3 cents for every \$100 or fraction thereof of par value.

Tax on Premium Income of Insurance Companies

All ten provinces impose a tax of 2 p.c. on the premium income of insurance companies relative to risks incurred in the province. Saskatchewan imposes a tax of 1 p.c. on the motor vehicle premium income of insurance companies to finance a comprehensive high school driver-training program.

Succession Duties

Only the Provinces of Ontario, Quebec and British Columbia levy succession duties. These duties are a tax upon the right to succeed to property and are assessed upon the interest or benefit passing at death to an heir or beneficiary. The three provinces impose succession duties on all property situated in the province belonging to the deceased and

passing at his death whether the deceased was domiciled in the province or elsewhere. Personal property wherever situated of a person dying domiciled within the province is also liable if passing to a successor resident or domiciled in the province.

The rates of succession duty are generally governed by the value of the estate, the relationship of the beneficiary to the deceased and the amount going to any one person. The rate of tax increases as the degree of relationship between the deceased and his successor becomes more remote.

Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan and Alberta, while not imposing succession duties, each receives 75 p.c. of the Federal Government estate tax levied on property situated within its borders. The Alberta share of estate taxes is rebated in full where the deceased was a bona fide resident of the province.

Provincial Property Taxes

In unorganized (non-municipal) areas, British Columbia levies property taxes at varying rates according to class for provincial revenue. Improved forest and tree-farm lands are taxed at 1 p.c. of assessed value; farm land at one half of 1 p.c.; wild land at 3 p.c.; coal land at 2 p.c. (non-operating) or 7 p.c. (operating); and timber land at 1½ p.c. In unorganized (non-municipal) areas, Ontario levies a property tax of 1½ p.c. of assessed value; the minimum annual tax in respect of any land is \$6. New Brunswick levies a tax of \$1.50 per \$100 market value assessment on all land and buildings in the province and a similar tax on business occupancy, to finance education, health, welfare and justice services. Nova Scotia also imposes property taxes of limited application.

Race Track Taxes

Ontario levies a tax on operators of race meets and on holders of winning tickets issued under the pari-mutuel system. The tax on race-meet operators is imposed at the rate of \$1 for each day the meet is conducted. Holders of winning tickets must pay a tax equal to 6 p.c. of the amount that would be payable to them if no percentage were deducted by the person holding the race meet. A number of other provinces levy a pari-mutuel tax on money bet in the province on horse races; in Newfoundland the rate is 11 p.c., in Prince Edward Island 10½ p.c., in Nova Scotia 11 p.c. on the first \$400,000 wagered and a reduced percentage on any additional money wagered (some of this money is refundable to the individual race tracks), in New Brunswick 5½ p.c., in Manitoba 10 p.c., in Alberta and Saskatchewan 5 p.c., and in Quebec 7 p.c. on ordinary pools and 9 p.c. on special pools (quinella and daily-double). In British Columbia the tax is 12 p.c. but the province returns 2½ p.c. of money bet to horsemen and track operators for purses, etc.

Miscellaneous Provincial Taxes

In Nova Scotia a fire marshal's tax is levied at the rate of one half of 1 p.c. on premiums paid for fire insurance in the province. A tax is also levied on long-distance telephone calls at the rate of five cents on the first 50 cents with a five-cent minimum and five cents on each additional 50 cents, applying only to calls made within the province.

Subsection 3.—Municipal Taxes

The municipalities in Canada levy taxes on the owners of property situated within their jurisdiction according to the assessed value of such property. Methods of determining assessed value vary widely but for taxation purposes it is generally considered to be a percentage of the actual value or, as in Nova Scotia and New Brunswick, of the actual

market value. The revenues from such taxes are used generally to pay for street maintenance, schools, police and fire protection, snow removal in certain communities and other community services; in New Brunswick the municipal levy is used only for property service. Special levies are sometimes made on the basis of street frontage to pay for local improvements to the property such as sidewalks, roads and sewers. Not only is there a widespread difference in the bases used for property tax but there is also a wide variety of rates applied, depending on the municipality.

In addition to the taxes described above, municipalities usually impose a charge for the water consumption of each property holder or a water tax based upon the rental value of the property occupied. There are no municipal income taxes although certain localities have retained the use of a poll tax. In Newfoundland, Quebec and Saskatchewan, municipalities are empowered to levy an amusement tax on the admission of persons to places of entertainment, although the amusement tax is generally a provincial preserve (see p. 1020). Electricity and gas are taxed at the consumer level in some western municipalities and in some New Brunswick municipalities, and coal and fuel oil for heating purposes are chargeable in urban areas of Newfoundland. Telephone subscribers are subject to a special levy in Montreal and certain Ontario municipalities impose a tax on the gross receipts of telephone companies.

In most municipalities, a tax is levied directly on the tenant or the operator of a business. In general, business tax rates are lower than those applying to property. Three bases of assessment are in use—a fraction of the property assessment, the annual rental value of the premises, or the area of the premises. Certain municipalities may charge a licence fee instead of a business tax but others charge both a licence fee and a business tax.

Subsection 4.—Miscellaneous Levies

These are not generally referred to as taxes but they are similar to taxes in many ways.

Unemployment Insurance

A national program of unemployment insurance operates in Canada. Essentially, it provides relief to those qualified persons who temporarily find themselves without work. It is administered by a federal commission appointed for this purpose and financed by equal contributions from employers and employees plus a contribution from the Federal Government. The amount paid into the fund by employee and employer is directly proportional to the weekly wages of the employee. The rates of contributions, together with statistics on the operation of the program, are given at pp. 781-785.

Workmen's Compensation

Legislation in force in all provinces provides compensation for personal injury suffered by workmen as a result of industrial accidents. In general, these provincial statutes establish an accident fund administered by a Board to which employers are required to contribute at a rate proportional with the hazards of the industry. See also pp. 785-787.

Hospital Insurance

A federal-provincial hospital insurance plan has been adopted by each of the ten Canadian provinces. Under this arrangement, the Federal Government pays approximately one half of the cost of hospitalization for patients who are participants under the plan. The provinces meet the remainder of the cost. Provincial revenues for this purpose are raised by various means. The Province of Quebec has increased its personal and corporation income tax. Certain provinces require the deduction of a monthly premium from the wages of their residents as a contribution or premium for the plan. In such

provinces non-salaried people must also pay the premium directly if they wish to be covered by the plan. In some other provinces the proceeds of a retail sales tax are earmarked in whole or in part for the support of the hospital plan. See also pp. 296-298.

Canada and Quebec Pension Plans

In 1966 the Canada Pension Plan, a compulsory government-operated pension program, was introduced whereby each contributor builds up a right to a graduated pension, the amount of which is related to his earnings up to a certain level. This graduated benefit will supplement the universal old age security pension which is paid out of tax revenues. It operates throughout the country except in the Province of Quebec where a similar pension plan is operated by the government of the province. Both plans have disability and survivor benefits. They are described at pp. 326-329.

Section 3.—Federal Government Finance

Subsection 1 of this Section contains financial statistics of the Federal Government prepared as far as possible in accordance with the classifications, concepts and definitions used in the preparation of provincial and municipal finance statistics. These tables differ from the information presented in Subsection 2 in that the latter has been extracted directly from the *Canada Gazette*. Detailed reports published by the Dominion Bureau of Statistics provide reconciliations of revenue, expenditure and debt as set out in Subsections 1 and 2. The *Canada Gazette* presentation is included because there is interest in and use for information on this basis.

Subsection 1.—DBS Statistics of Federal Government Finance

Revenue and Expenditure.—Table 4 shows details of net general revenue of the Federal Government for the years ended Mar. 31, 1965 and 1966.

4.—Details of Net General Revenue of the Federal Government, Years Ended Mar. 31, 1965 and 1966

Source	1965	1966 ^a	Source	1965	1966 ^a
	\$'000	\$'000		\$'000	\$'000
Taxes—			Privileges, Licences and Permits—		
Income—			Natural resources.....	5,601	12,115
Corporation ¹	1,669,065	1,758,870	Other.....	22,382	26,507
Individual ¹	2,535,182	2,637,356	Sales and services other than institutional.....	109,967	108,215
Withholding—			Fines and penalties.....	1,984	2,741
On interest, etc., going abroad.....	143,718	170,019	Exchange fund profits.....	19,639	63,001
General sales ¹	1,587,761	1,917,215	Receipts from government enterprises.....	139,445	156,541
Excise Duties and Special Excise Taxes—			Bullion and coinage.....	15,032	16,655
Alcoholic beverages.....	239,179	264,097	Postal service.....	263,758	276,050
Tobacco.....	394,627	424,236	Other revenue.....	14,539	14,993
Other.....	45,437	52,076	Non-revenue and surplus receipts.....	21,900	21,260
Customs import duties.....	622,102	685,519			
Estate taxes.....	88,626	108,353			
Other.....	140	161			
Totals, Taxes.....	7,325,837	8,017,902	Totals, Net General Revenue.....	7,940,084	8,715,980

¹ Includes old age security taxes.

Table 5 gives details of the amounts paid by the Federal Government to provincial governments, territories and municipal corporations for the year ended Mar. 31, 1966, and Table 6 gives details of expenditure by function for the years ended Mar. 31, 1965 and 1966.

5.—Payments by the Federal Government to Provincial Governments, Territories and Municipal Corporations, Year Ended Mar. 31, 1966*

Payee and Purpose	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	All Provinces	Y.T.	N.W.T.	Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Provincial Governments and Territories														
Federal-provincial fiscal arrangements ¹	33,849	9,678	47,657	43,114	131,124	16,838	28,298	29,044	6,008	896	346,506	2,629 ¹	2,868 ¹	352,003
Share of income tax on power utilities.....	263	57	683	24	1,979	1,321	44	10	2,569	437	6,387	—	—	6,387
Statutory subsidies.....	9,656 ³	657	2,133	1,745	3,964	4,624	2,117	2,124	2,887	1,672	31,579	—	—	31,579
Totals, Above Items.....	43,768	10,392	50,473	44,883	136,067	22,783	30,459	31,178	11,464	3,005	384,472	2,629	2,868	389,969
Grants-in-Aid and Shared-Cost Contributions—														
Transportation—														
Trans-Canada Highway.....	23,078	1,091	6,802	13,663	33,532	3,054	158	195	19	1,831	83,423	—	—	83,423
Roads leading to resources.....	750	497	378	750	1,500	750	977	718	450	495	7,265	—	—	7,265
Other transportation.....	2,303	790	811	2,666	1,916	884	99	—	100	110	8,679	10	8	8,697
Health—														
Hospital insurance and diagnostic services.....	11,650	2,436	18,078	14,919	28,282	171,800	23,131	25,869	36,860	40,545	373,669	357	722	374,748
Hospital construction.....	977	202	759	127	3,464	6,919	976	1,101	1,601	1,459	17,585	—	37	17,622
General Health Grants—														
General public health.....	383	178	775	582	—239	4,492	885	708	1,217	1,530	10,511	—	113	10,624
Tuberculosis control.....	166	34	77	72	—	845	86	81	117	187	1,695	—	—	1,719
Mental health.....	179	129	393	311	—	2,777	441	352	656	638	5,876	34	—	5,910
Professional training.....	100	11	53	65	—	599	90	84	130	148	1,280	—	—	1,280
Cancer control.....	3	16	44	68	—	497	—	100	145	260	1,133	—	—	1,133
Public health research.....	18	19	179	52	1,102	1,448	626	215	131	417	4,207	—	8	4,215
Medical rehabilitation and crippled children.....	101	11	89	99	—	930	146	110	92	261	1,839	—	—	1,839
Child and maternal health.....	61	7	35	75	—	384	71	68	107	62	920	—	—	920
Other health.....	2	—	654	3	5	5	1	—	—	—	670	61	589	1,320
Social Welfare—														
Old age assistance.....	2,121	498	2,188	2,162	—38	10,006	2,188	2,098	2,796	2,836	26,855	13	74	26,942
Blind persons' allowances.....	304	47	483	439	—	1,153	251	248	308	358	3,596	4	32	3,632
Disabled persons' allowances.....	804	350	1,524	1,031	1	7,824	689	825	852	1,061	14,959	1	19	14,979
Unemployment assistance.....	4,478	403	1,867	1,741	24,574	27,588	5,602	4,388	11,037	19,894	101,572	70	65	101,707
Other social welfare.....	311	18	102	94	19,144	7,752	276	241	137	146	21,221	12	—	21,233
Recreation—														
Campground and picnic area developments.....	60	19	9	33	—	—	—	33	8	—	162	14	13	189
Fitness and amateur sport.....	49	37	47	69	—	133	64	39	27	81	546	—	34	602
Other recreation.....	85	—	73	7	—	466	770	536	162	452	2,551	—	14	2,565
Education—														
Technical and vocational training—														
Capital assistance to trade schools, etc.....	327	67	547	303	42,126	31,398	1,571	996	11,283	15,279	103,897	193	—	104,090

Vocational high school training.....	12	46	150	130	—	1,144	162	165	214	259	2,262	16	—	2,278
Technical training.....	137	—	21	128	308	1,283	461	302	736	845	3,921	—	13	3,934
Occupational training.....	2,342	74	737	870	862	3,819	468	828	3,155	2,100	15,255	67	62	15,384
Apprenticeship training.....	44	—	50	166	—	273	40	64	198	84	919	—	1	920
Assistance to students.....	8	—	—	10	—	100	6	30	10	30	194	—	1	195
Training of unemployed workers.....	741	86	814	152	2,906	16,021	920	414	931	933	23,918	49	12	23,979
Training of disabled persons.....	24	3	88	24	124	373	124	67	5	40	800	—	—	800
Other.....	35	5	50	65	7,911	227	27	21	206	43	8,590	10	1	8,601
Citizenship and language instruction for immigrants.....	—	1	—	—	—	230	6	8	—	14	265	—	—	265
Other training.....	—	—	—	—	74	—	—	—	—	—	74	133	—	207
Natural Resources—														
Construction of vessels.....	119	7	1,183	297	165	—	—	—	—	—	1,771	—	—	1,771
Forest inventories, reforestation, protection and improvement.....	257	40	168	802	1,959	1,655	506	369	1,002	1,810	8,568	—	—	8,568
Agricultural assistance (lime, 4-H, clubs, farm labour agreements, rehabilitation and development, transport of fodder, etc., crop in- surance and other).....	150	211	479	454	10,800	3,220 1,954 ⁴	1,381 8,288 ⁴	2,190	505	1,567	21,167 10,437	—	—	21,167 10,548
Civil defence.....	50	17	207	144	1,468	1,690	243	198	559	514	5,090	10	—	5,100
Winter works projects in municipalities	236	283	111	575	24,785	6,366	1,113	1,331	2,215	3,974	40,989	—	19	41,008
Other.....	—	—	—	1,356	—	84	77	40	—	—	1,557	2	8	1,562
Totals, Grants-in-Aid and Shared-Cost Contributions.....	52,855	7,633	40,081	44,504	205,657	313,242	52,600	45,032	77,976	100,308	939,888	1,122	1,931	942,941
Totals, Paid to Provincial Governments and Territories.	96,623	18,025	90,554	89,387	341,724	336,025	83,059	76,210	89,440	103,313	1,324,360	3,751	4,799	1,332,910
Municipal Corporations														
Grants in lieu of taxes on federal property	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Special grants.....	394	172	3,016	1,260	7,180	17,731	1,981	1,152	1,914	2,780	37,580	12	160	37,752
Grants-in-Aid and Shared-Cost Contri- butions—	—	—	—	1,850 ³	—	—	—	—	—	—	1,850	—	—	1,850
Transportation.....	117	—	326	16	247	3,672	213	138	54	117	4,900	—	—	4,900
Health.....	—	—	71	62	1,277	4,885	2,537	209	236	1,166	10,513	—	—	10,513
Schools operated by local authorities.....	—	—	61	22	—	501	234	389	608	606	2,421	—	—	2,421
Slum clearance.....	13	—	517	334	1,913	2,927	709	—	—	493	6,906	—	—	6,906
Other.....	24	12	476	504	14,106	10,258	604	1,620	1,773	4,164	33,841	—	9	33,850
Totals, Paid to Municipal Cor- porations.....	548	184	4,467	4,048	24,723	39,954	6,278	3,808	4,645	9,326	98,011	12	169	98,192
Grand Totals.....	97,171	18,209	95,021	93,435	366,447	376,009	89,337	80,018	94,085	112,639	1,422,371	3,763	4,968	1,431,102

¹ Federal tax abatement grant.² Includes Atlantic Provinces adjustment grants \$10,500,000 each to Newfoundland, Nova Scotia and New Brunswick, and \$3,500,000 to Prince Edward Island.³ Includes additional subsidy of \$8,000,000.⁴ Conservation and control of water resources.⁵ Financial assistance to the Town of Oranmore.

**6.—Details of Net General Expenditure of the Federal Government, Years Ended
Mar. 31, 1965 and 1966**

Function	1965	1966 ¹	Function	1965	1966 ²
	\$'000	\$'000		\$'000	\$'000
Defence services and mutual aid.....	1,562,405	1,571,539	Education—		
Veterans pensions and other benefits.....	356,246	372,160	Indian and Eskimo schools..	43,959	52,575
General Government—			Universities, colleges and other schools.....	130,740	190,302
Executive and administrative.....	235,066	292,023	Other.....	41,014	53,568
Legislative.....	16,261	29,348	Totals, Education.....	215,713	296,445
Research, planning and statistics.....	15,896	18,164	Natural Resources and Primary Industries—		
Totals, General Government.....	267,223	339,535	Fish and game.....	27,750	37,261
Protection of Persons and Property—			Forests.....	21,572	22,905
Law enforcement.....	11,719	12,467	Lands, settlement and agriculture.....	237,750	266,417
Corrections.....	38,162	55,811	Minerals and mines.....	58,595	62,523
Police protection.....	76,847	81,448	Water resources.....	13,979	29,403
Other.....	10,942	13,341	Other.....	20,977	25,431
Totals, Protection of Persons and Property.....	137,670	163,067	Totals, Natural Resources and Primary Industries..	380,623	443,940
Transportation—			Trade and industrial development.....	56,250	88,670
Air.....	70,129	77,619	National Capital area planning and development.....	23,957	29,699
Road.....	130,701	133,008	Loss on foreign exchange.....	—16	—
Rail.....	118,072	122,063	Debt Charges (excluding debt retirement)—		
Water.....	167,568	217,616	Interest.....	752,206	863,468
Other.....	4,142	4,602	Other.....	39,249	33,562
Totals, Transportation....	490,612	554,908	Totals, Debt Charges (excluding debt retirement)	791,455	897,030
Communications — telephone, telegraph and wireless.....	40,066	43,499	Payments to government enterprises.....	181,713	162,743
Health—			Payments to Provincial Governments—		
General.....	6,554	8,046	Federal-provincial fiscal arrangements.....	312,473	352,003
Public.....	44,850	44,388	Share of income tax on power utilities.....	9,679	6,387
Medical, dental and allied services.....	13,501	17,762	Subsidies.....	31,579	31,579
Hospital care.....	470,826	410,989	Grants to Municipal Governments in lieu of taxes.....	36,447	37,752
Totals, Health.....	535,731	481,185	Special grants.....	1,800	1,850
Social Welfare—			Totals, Payments to Provincial and Municipal Governments ³	391,978	429,571
Aid to unemployed and unemployed and unemployment insurance services....	107,553	203,396	Citizenship and immigration..	20,483	18,854
National employment services.....	116,443	26,335	External affairs.....	28,338	32,297
Aid to blind and disabled persons.....	28,990	18,611	International co-operation and assistance.....	107,758	126,410
Old age assistance.....	46,975	28,431	Housing research and slum clearance.....	9,642	14,384
Old age security fund.....	885,294	927,299	Civil defence.....	10,315	9,604
Family allowances.....	550,764	555,686	Postal service.....	268,975	301,453
Other ²	106,559	131,525	Royal Canadian Mint.....	2,661	3,194
Totals, Social Welfare....	1,842,578	1,891,283	Other.....	145,906	204,023
Recreational and Cultural Services—			Non-expend and Surplus Payments.....	3,448	669
Archives, art galleries, museums and libraries.....	5,956	18,290	Totals, Net General Expenditure.....	7,916,464	8,533,895
Parks.....	18,213	20,367			
Other.....	20,565	19,076			
Totals, Recreational and Cultural Services.....	44,734	57,733			

¹ Includes unemployment insurance services which are not separable. ² Includes winter works projects amounting to \$59,122,000 for 1965 and \$56,905,000 for 1966. ³ Unconditional payments; grants for specific purposes are classified by function. See Table 5 for details of all grants to provincial governments and municipal corporations.

Debt.—In Table 7, direct debt represents total liabilities less sinking funds and indirect debt consists of guarantees of direct debt of other authorities by the Federal Government. Table 8 gives the gross bonded debt of the Federal Government and the average interest rates and terms of issue as at Mar. 31, 1963-66, together with place of payment.

7.—Direct and Indirect Debt (less Sinking Funds) of the Federal Government as at Mar. 31, 1963-66

Nature of Debt	1963	1964	1965*	1966 ^p
	\$'000	\$'000	\$'000	\$'000
Direct Debt				
Funded Debt—				
Bonded debt.....	15,796,836	16,510,097	16,838,214	16,959,787
Less sinking funds.....	22,312	—	5,141	—
Net funded debt.....	15,774,524	16,510,097	16,832,773	16,959,787
Short-term treasury bills ¹	2,165,000	2,230,000	2,140,000	2,150,000
Accounts and other payables.....	1,468,897	1,447,585	1,213,171	1,180,719
Annuity, insurance and pension accounts.....	4,748,506	5,132,423	5,676,796	6,393,089
Other liabilities.....	416,767	430,498	481,694	516,946
Totals, Direct Debt (less Sinking Funds).....	24,573,694	25,750,603	26,344,434	27,180,541
Indirect Debt				
Guaranteed bonds or debentures.....	1,381,361	1,377,611	1,368,298	1,331,548
Less sinking funds.....	—	—	—	—
Net guaranteed bonds or debentures.....	1,381,361	1,377,611	1,368,298	1,331,548
Guaranteed bank loans.....	141,353	219,039	282,018	398,690
Guaranteed insured loans under National Housing Act, 1954....	4,123,000	4,499,000	4,934,000	5,321,621
Guarantees under Export Credits Insurance Act.....	333,646	378,096	468,644	508,213
Other guarantees.....	12,976	14,491	15,863	17,341
Totals, Indirect Debt (less Sinking Funds)².....	5,992,336	6,488,237	7,068,823	7,577,413
Totals, Direct and Indirect Debt (less Sinking Funds).....	30,566,030	32,238,840	33,413,257	34,757,954
	\$	\$	\$	\$
Direct debt (less sinking funds) per capita.....	1,300	1,339	1,346	1,358
Indirect debt (less sinking funds) per capita.....	317	337	361	379

* Having a term of three or six months.

² Excludes deposits of chartered banks in Bank of Canada.

8.—Gross Bonded Debt of the Federal Government, Average Interest Rate and Term of Issue, and Place of Payment as at Mar. 31, 1963-66

Item	1963	1964	1965	1966 ^p
Bonded debt..... \$'000	15,796,836	16,510,097	16,838,214	16,959,787
Average interest rate..... p.c.	4.13	4.27	4.49	4.47
Average term of issue..... yrs.	13.36	13.09	13.29	13.53
Place of Payment—				
Canada..... \$'000	15,385,847	16,133,692	16,461,809	16,588,787
New York..... "	376,405	376,405	376,405	371,000
London (England)..... "	34,584	—	—	—

Subsection 2.—Public Accounts Statistics of Federal Government Finance

The figures of Tables 9 and 11, giving details of revenue and of assets and liabilities, respectively, of the Federal Government for the fiscal years ended Mar. 31, 1965-67, and the figures of Table 10, giving details of Federal Government expenditure for the years ended Mar. 31, 1966 and 1967, are taken from the *Canada Gazette*.

9.—Revenue of the Federal Government, Years Ended Mar. 31, 1965-67

Revenue	1965	1966	1967
	\$	\$	\$
Tax Revenue—			
Customs import duties (net).....	622,101,883	685,519,390	777,585,703
Excise duties.....	411,402,145	445,885,434	460,980,029
Income tax.....	3,770,814,463	3,919,095,260	4,270,666,470
Personal ¹	2,103,281,917	2,142,456,230 ²	2,473,820,311 ²
Corporation ¹	1,523,814,601	1,606,620,322	1,593,224,756
On dividends, interest, etc., going abroad.....	143,717,945	170,018,708	203,621,403
Sales tax (net) ¹	1,204,609,934	1,395,128,921	1,513,565,998
Estate tax, including succession duties.....	88,625,641	108,352,377	101,105,631
Other taxes.....	269,222,184	296,338,710	315,750,970
Totals, Tax Revenue.....	6,366,776,250	6,850,320,092	7,439,654,801
Non-tax Revenue—			
Post Office (net).....	230,435,714	237,482,206	253,342,482
Return on investments.....	422,693,741	438,254,129	519,140,346
Bullion and coinage.....	12,298,922	11,217,545	5,430,009
Other.....	148,105,160	158,546,142	158,614,206
Totals, Non-tax Revenue.....	813,533,537	845,500,112	936,527,043
Grand Totals, Revenue.....	7,180,309,787	7,695,820,204	8,376,181,844

¹ Excludes tax credited to the Old Age Security Fund.² Excludes tax credited to Canada Pension Plan.

10.—Expenditure of the Federal Government, Years Ended Mar. 31, 1966 and 1967

NOTE.—In 1966-67 the Departments of the Federal Government were reorganized; where a transfer of duties took place during 1966-67 the amounts for 1965-66 have been adjusted for comparative purposes.

Item	1966	1967
	\$	\$
Defence Expenditures.....	1,594,981,383	1,695,871,969
National Defence.....	1,548,446,784	1,640,377,558
Defence Production.....	22,636,820	32,868,230
Technological assistance to Canadian defence industry.....	23,897,779	22,626,181
Non-defence Expenditures.....	6,139,814,142	7,101,812,488
Agriculture.....	186,263,616	230,657,096
Atomic Energy Control Board.....	1,784,132	2,244,736
Atomic Energy of Canada Limited "research" program.....	52,666,043	57,983,346
Auditor General.....	1,741,901	2,058,677
Board of Broadcast Governors.....	382,787	601,814
Canadian Broadcasting Corporation.....	97,458,915	115,243,073
Central Mortgage and Housing Corporation.....	21,571,958	20,122,952
Chief Electoral Officer.....	12,953,140	919,041
Defence Production.....	8,860,613	9,314,485
Dominion Bureau of Statistics.....	15,591,823	26,635,421
Energy, Mines and Resources.....	107,357,514	130,188,364
External Affairs.....	152,545,955	230,474,187
Finance.....	1,681,066,198	1,836,032,323
Administration and general.....	4,791,352	18,102,876
Public debt charges.....	1,110,857,197	1,190,523,254
Fiscal, tax-sharing, subsidy and other payments to provinces.....	465,993,282	515,522,814
Other.....	99,424,367	111,883,379
Fisheries.....	34,526,476	41,471,351
Forestry and Rural Development.....	57,134,577	66,490,503
Governor General and Lieutenant-Governors.....	690,556	774,003
Indian Affairs and Northern Development.....	156,433,733	197,415,383
Industry.....	5,403,370	12,071,692
Insurance.....	1,512,059	1,652,187
Justice.....	11,224,377	12,175,037
Labour.....	23,993,711	24,911,054
Legislation.....	14,711,823	17,835,638
Manpower and Immigration.....	236,478,088	320,416,247
National Film Board.....	6,891,335	8,016,817
National Gallery of Canada.....	1,815,626	1,872,361

10.—Expenditure of the Federal Government, Years Ended Mar. 31, 1966 and 1967—concluded

Item	1966	1967
	\$	\$
Non-defence Expenditures—concluded		
National Health and Welfare.....	1,175,122,029	1,315,942,452
Administration and general.....	2,605,929	7,753,780
Health services.....	372,717,431	451,086,072
Medical services.....	37,606,364	38,496,917
Food and drug services.....	5,360,491	6,769,175
Welfare services.....	757,031,814	811,836,508
National Research Council including Medical Research Council.....	74,387,029	94,648,779
National Revenue.....	94,971,980	105,868,118
Post Office.....	240,206,458	268,493,659
Privy Council.....	6,080,981	7,897,880
Public Archives and National Library.....	1,973,514	2,663,017
Public Printing and Stationery.....	3,053,651	4,020,598
Public Service Commission.....	7,986,854	10,848,505
Public Service Staff Relations Board.....	—	29,434
Public Works.....	275,147,218	294,372,635
Registrar General.....	4,591,027	5,529,033
Secretary of State.....	54,178,085	133,847,296
Solicitor General.....	138,834,027	162,279,320
Trade and Commerce.....	67,957,275	73,509,965
Transport.....	532,498,872	603,999,371
Treasury Board.....	104,389,325	153,357,042
Unemployment Insurance Commission.....	98,037,727	106,107,051
Veterans Affairs.....	369,337,164	390,820,545
Grand Totals, Expenditures.....	7,734,795,525	8,797,684,457

11.—Statement of Assets and Liabilities of the Government of Canada, as at Mar. 31, 1965-67

Item	1965	1966*	1967
	\$	\$	\$
Assets			
Current Assets—			
Cash.....	850,282,134	759,080,004	1,009,249,467
Departmental Working Capital Advances and Revolving Funds.....	134,150,957	120,576,475	157,794,702
Securities held for the securities investment account at amortized cost.....	57,119,872	81,475,697	197,689,061
Other current assets.....	29,134,994	54,861,735	29,232,480
Totals, Current Assets.....	1,070,687,957	1,015,993,911	1,393,965,710
Cash in blocked currency.....	—	1,002,400	2,136,260
Advances to the Exchange Fund Account.....	2,621,000,000	2,696,000,000	2,355,000,000
Sinking fund and other investments held for retirement of un-matured debt.....	5,441,198	—	3,151,500
Investment in special United States of America securities—			
Columbia River Treaty.....	219,479,161	187,191,661	180,029,353
Canada Pension Plan Investment Fund.....	—	34,853,000	615,521,000
Loans to and Investments in Crown Corporations.....	4,014,534,120	5,659,074,571	6,728,664,785
Loans to national governments.....	1,288,343,607	1,225,212,643	1,201,581,177
Other Loans and Investments—			
Subscriptions to Capital of, and working Capital Advances and Loans to, International Organizations.....	709,753,536	724,695,231	952,187,667
Loans to provincial governments.....	98,435,807	96,723,106	123,515,007
Veterans' Land Act advances (less reserve for conditional benefits).....	231,322,169	256,191,461	311,408,833
Miscellaneous.....	99,869,916	185,602,890	326,886,707
Totals, Other Loans and Investments.....	1,139,381,428	1,263,212,688	1,713,998,214
Securities held in trust.....	53,059,935	51,956,505	50,852,748

**11.—Statement of Assets and Liabilities of the Government of Canada, as at
Mar. 31, 1965-67—concluded**

Item	1965	1966 *	1967
	\$	\$	\$
Assets—concluded			
Deferred Charges—			
Unamortized portions of actuarial deficiencies—			
Canadian forces superannuation account.....	53,761,600	53,601,200	260,223,200
Public service superannuation account.....	39,920,800	93,620,600	189,453,200
Royal Canadian Mounted Police superannuation account.....	4,153,600	3,115,200	10,956,800
Unamortized loan flotation costs.....	110,749,442	106,217,789	121,212,572
Totals, Deferred Charges.....	208,585,442	256,554,789	581,845,772
Suspense accounts.....	—	—	—
Capital assets.....	1	1	1
Inactive loans and investments.....	94,824,381	94,824,381	94,824,381
Total Recorded Assets.....	11,615,337,230	12,485,876,550	14,921,570,901
Less: Reserve for losses on realization of assets.....	—546,384,065	—546,384,065	—546,384,065
Net recorded assets.....	11,068,953,165	11,939,492,485	14,375,186,836
Net debt.....	15,504,472,544	15,543,447,865	15,964,950,478
	26,573,425,709	27,482,940,350	30,340,137,314
Liabilities			
Current and Demand Liabilities—			
Outstanding treasury cheques.....	315,077,233	332,859,574	382,624,889
Accounts payable.....	363,925,315	380,308,616	454,510,346
Non-interest-bearing notes payable on demand.....	367,897,531	255,388,518	366,378,362
Matured debt outstanding.....	19,140,916	27,324,686	30,670,121
Interest due and outstanding.....	102,034,032	110,930,898	111,271,485
Interest accrued.....	231,173,522	254,292,555	286,250,208
Other current liabilities.....	33,367,648	37,731,247	39,272,685
Totals, Current and Demand Liabilities.....	1,432,616,197	1,398,836,094	1,670,978,096
Deposit and trust accounts.....	272,311,590	310,728,861	346,314,229
Annuity, Insurance and Pension Accounts—			
Government annuities.....	1,303,136,883	1,317,080,018	1,324,518,806
Canada Pension Plan Account.....	—	89,405,854	680,880,663
Old Age Security Fund.....	—	216,982,842	429,592,180
Canadian forces superannuation account.....	2,028,122,459	2,184,209,822	2,577,016,944
Public service superannuation account.....	2,161,828,359	2,390,383,090	2,689,467,818
Miscellaneous.....	182,753,152	194,071,319	213,655,512
Totals, Annuity, Insurance and Pension Accounts.....	5,675,840,853	6,392,132,945	7,915,131,923
Undisbursed Balances of Appropriations to Special Accounts—			
Colombo Plan Fund.....	..	..	..
Miscellaneous.....	..	..	..
Totals, Undisbursed Balances of Appropriations to Special Accounts.....	95,702,607	101,945,175	76,573,119
Refundable Corporation Tax.....	—	—	196,157,131
Deferred credits and suspense accounts.....	118,740,283	169,510,146	194,776,787
Unmatured Debt—			
Bonds—			
Payable in Canada.....	16,461,809,150	16,588,787,500	17,264,611,800
Payable in London.....	—	—	—
Payable in New York.....	376,405,029	370,999,629	365,594,229
Treasury Bills and Notes—			
Payable in Canada.....	2,140,000,000	2,150,000,000	2,310,000,000
Totals, Unmatured Debt.....	18,978,214,179	19,109,787,129	19,940,206,029
Totals, Liabilities.....	26,573,425,709	27,482,940,350	30,340,137,314

Guaranteed Debt.—In addition to the direct debt already dealt with, the Government of Canada has assumed certain contingent liabilities. The major categories of this indirect or contingent debt are the guarantee of insured loans under the National Housing Act, the guaranteed bonds and debentures of the Canadian National Railways and the guarantee of deposits maintained by the chartered banks in the Bank of Canada. The remainder consists chiefly of guarantees of loans made by chartered banks to the Canadian Wheat Board, to farmers and to university students and of guarantees under the Export Credits Insurance Act.

12.—Guaranteed Debt of the Government of Canada, as at Mar. 31, 1966

SOURCE: *Public Accounts of Canada*

Item	Amount of Guarantee Authorized	Amount Outstanding in the Hands of the Public as at Mar. 31, 1966 ¹
	\$	\$
Railway Securities Guaranteed as to Principal and Interest—		
Canadian National Ry. Co. 2½ per cent bonds due 1967.....	50,000,000	50,000,000
Canadian National Ry. Co. 4½ per cent bonds due 1967.....	72,300,000	72,300,000
Canadian National Ry. Co. 5 per cent bonds due 1968.....	55,800,000	55,800,000
Canadian National Ry. Co. 2½ per cent bonds due 1969.....	70,000,000	70,000,000
Canadian National Ry. Co. 2½ per cent bonds due 1971.....	40,000,000	40,000,000
Canadian National Ry. Co. 2½ per cent bonds due 1971.....	190,561,500	190,561,500
Canadian National Ry. Co. 5½ per cent bonds due 1971.....	200,000,000	200,000,000
Canadian National Ry. Co. 3½ per cent bonds due 1974.....	6,486,486	6,486,486
Canadian National Ry. Co. 2½ per cent bonds due 1975 ²	84,150,000	84,150,000
Canadian National Ry. Co. 5 per cent bonds due 1977.....	300,000,000	300,000,000
Canadian National Ry. Co. 4 per cent bonds due 1981.....	99,500,000	99,500,000
Canadian National Ry. Co. 5½ per cent bonds due 1985.....	162,750,000	162,750,000
Canadian National Ry. Co. 5 per cent bonds due 1987.....		
Other Guarantees—		
Deposits maintained by chartered banks in Bank of Canada.....	Unstated	1,031,322,000
Loans made by lenders under Part IV of the National Housing Act, 1954, for home extensions and improvements.....	25,000,000	17,341,000
Insured loans made by approved lenders under the National Housing Act, 1954.....	8,500,000,000	5,321,621,000 ³
Insurance and guarantees issued or approved under Section 21 and 21A of the Export Credits Insurance Act.....	1,000,000,000	508,213,000
Loans made by chartered banks under the Farm Improvement Loans Act.....	124,924,000	68,891,000
Loans made by chartered banks under the Veterans Business and Pro- fessional Loans Act.....	3,000	3,000
Loans made by chartered banks and credit unions under the Canada Student Loans Act.....	80,327,000	84,268,000 ⁴
Loans made by chartered banks and credit unions under the Fisheries Improvement Loans Act.....	2,700,000	430,000
Loans made by chartered banks under the Small Businesses Loans Act. Notes issued by the Canadian Corporation for the 1967 World Exhibition	37,313,000	13,061,000
Loans made by chartered banks to the Canadian Wheat Board.....	Unstated	44,000,000
	398,000,000	232,037,000

¹ In addition, the government has an indeterminate contingent liability in respect of rental guarantee contracts which in 1965 amounted to approximately \$13,876,000. Against this amount was a reserve of \$3,957,000 held by Central Mortgage and Housing Corporation.

² These contingent liabilities are expressed in Canadian dollars; they are payable solely in United States dollars and are converted on the basis of \$1 U.S. = \$1.08108 Canadian.

³ As reported (in accordance with Sect. 45, National Housing Loan Regulations) by approved lenders at Dec. 31, 1965.

⁴ Includes contingent liability in respect of alternate payments to non-participating provinces. An amendment to the Canada Student Loans Act enacted July 11, 1966 authorizes increased allocations for this loan year by \$27,605,000.

Table 13 summarizes the national debt position during the period 1958-67 as to interest and amount outstanding. Details of unmatured debt and treasury bills outstanding and information on new security issues of the Federal Government may be found in the *Public Accounts of Canada*. They are summarized by standard classification in DBS publication *Federal Government Finance, Revenue and Expenditure* (Catalogue No. 68-211).

13.—Summary of the Public Debt and Interest Payments Thereon, Years Ended Mar. 31, 1958-67

NOTE.—Comparable figures from 1867 are given in the corresponding table of previous Year Books beginning with the 1942 edition.

Year Ended Mar. 31—	Gross Debt	Net Active Assets	Net Debt	Net Debt per Capita ¹	Increase in Net Debt during Year	Interest Paid on Debt	Interest Paid per Capita ²
	\$	\$	\$	\$	\$	\$	\$
1958...	18,418,541,848	7,372,267,958	11,046,273,890	646.74	38,622,732	539,207,260	32.46
1959...	20,246,773,669	8,568,383,809	11,678,389,860	667.99	632,115,970	606,615,887	35.52
1960...	20,986,367,010	8,897,173,007	12,089,194,003	676.51	410,804,143	735,630,175	42.08
1961...	21,602,836,960	9,165,721,865	12,437,115,095	681.93	347,921,092	756,664,228	42.34
1962...	22,907,814,464	9,679,677,419	13,228,137,045	712.34	791,021,950	802,919,207	44.02
1963...	24,799,279,690	10,879,509,718	13,919,769,972	736.65	691,632,927	881,598,898	47.47
1964...	25,923,732,116	10,853,582,664	15,070,149,452	783.39	1,150,379,480	954,543,790	50.52
1965...	26,573,425,709	11,068,953,165	15,504,472,544	792.22	434,323,092	1,012,097,143	52.62
1966...	27,482,940,350	11,939,492,485	15,543,447,865	780.33	38,975,321	1,077,295,513	55.05
1967...	30,340,137,314	14,375,186,836	15,964,950,478	782.40	421,502,613	1,156,105,268	57.76

¹ Based on the official estimates of population for June 1 of the year indicated.

² Based on the official estimates of population for June 1 of the year immediately preceding the one indicated.

Subsection 3.—Revenue from Taxation

The incidence of Federal Government taxation is dealt with in Section 2. This Subsection includes statistical data on revenue received from individual income tax, corporation tax, estate tax, excise duties and excise taxes; customs receipts constitute a single item in the *Public Accounts of Canada* and are not included here.

Individual and Corporation Income Tax

Statistics of income tax collections are gathered at the time the payments are made and are therefore up to date. Over 85 p.c. of individual taxpayers are wage or salary earners who have almost the whole of their tax liability deducted at the source by their employers. All other taxpayers are required to pay most of their estimated tax during the taxation year. Thus, the greater part of the tax is collected during the same year in which the related income is earned and only a limited residue remains to be collected when the returns are filed. The collections for a given fiscal year include employer remittances of tax deductions and Canada Pension Plan contributions and instalments for twelve months, embracing portions of two taxation years, and a mixture of year-end payments for the first of these years and for the preceding year; they cannot therefore be closely related to the statistics for a given taxation year. As little information about a taxpayer is received when the payment is made and as a single cheque from one employer may frequently cover the tax payment of hundreds of employees, the payments cannot be statistically related to taxpayers by occupation or income. Descriptive classifications of taxpayers are available only from tax returns but collection statistics, if interpreted with the current tax structure and the above factors in mind, indicate the trend of income in advance of the final compilation of statistics.

The statistics given in Table 14 pertain to revenue collections by the Department of National Revenue, Taxation. The collections are for fiscal years ended Mar. 31.

14.—Revenue Collected by the Department of National Revenue, Taxation, Years Ended Mar. 31, 1958-67

NOTE.—Comparable figures from 1917 are given in the corresponding table of previous Year Books beginning with the 1947 edition.

Year Ended Mar. 31—	Income Tax ¹				Estate Tax	Total Collections
	Individual ²	Corporation	Special Refundable Tax	Total		
	\$	\$	\$	\$	\$	\$
1958.....	1,699,123,470	1,295,470,725	...	2,994,594,195	71,607,758	3,066,201,953
1959.....	1,561,062,606	1,075,878,164	...	2,636,940,770	72,535,140	2,709,475,910
1960.....	1,825,547,063	1,234,215,702	...	3,059,762,765	88,430,705	3,148,193,470
1961.....	2,028,733,394	1,380,128,380	...	3,408,861,774	84,879,372	3,493,741,146
1962.....	2,200,573,190	1,303,502,634	...	3,504,075,824	84,579,382	3,588,655,206
1963 ³	2,399,882,273	1,362,655,419	...	3,762,537,692	87,143,312	3,849,681,004
1964 ³	2,579,083,811	1,472,175,333	...	4,051,259,144	90,671,283	4,141,930,427
1965 ³	3,047,590,003	1,804,507,172	...	4,852,097,176	88,625,641	4,940,722,817
1966 ³	3,336,657,371 ⁴	1,891,085,343	...	5,227,742,714	108,352,377	5,336,095,091
1967 ³	4,538,596,826 ⁴	1,874,903,376	196,157,131	6,609,657,333	101,105,631	6,710,762,964

¹ Includes old age security tax.

² Includes "non-resident" taxes.

³ Includes amounts of provincial

income tax collected by the Department of National Revenue, Taxation.

⁴ Includes Canada Pension Plan

contributions by employers, employees and self-employed collected by the Department of National Revenue, Taxation.

Income Tax Statistics.—Individual income tax statistics are presented in Tables 15 to 17 on a calendar-year basis and are compiled from a sample of all returns received. Taxpayers and amounts of income and tax are shown for selected cities and by occupation and income classes. Tables 18 to 20 give statistics of corporation income tax by industry group, province, income class and size of assets.

15.—Number of Taxpayers and Amounts of Income and Tax, by Selected Cities, 1964 and 1965

City and Province	1964			1965		
	Taxpayers	Total Income Assessed	Tax Payable ¹	Taxpayers	Total Income Assessed	Tax Payable ¹
	No.	\$'000	\$'000	No.	\$'000	\$'000
Brantford, Ont.....	23,087	108,624	12,338	24,549	122,168	14,010
Calgary, Alta.....	104,001	524,035	61,143	112,264	578,222	67,689
Edmonton, Alta.....	124,493	585,811	64,969	133,359	657,919	73,803
Fort William and Port Arthur, Ont.	34,025	160,238	16,737	36,720	182,084	19,463
Halifax, N.S.....	39,704	183,395	20,560	40,872	196,779	22,472
Hamilton, Ont.....	141,826	725,443	86,301	151,637	813,346	97,193
Hull, Que.....	29,612	131,883	10,786	31,266	144,685	8,802
Kitchener and Waterloo, Ont.....	45,319	217,820	25,436	49,693	247,837	29,028
London, Ont.....	69,023	328,933	38,225	73,631	369,850	43,607
Montreal, Que.....	682,101	3,378,775	346,874	732,120	3,781,667	278,738
New Westminster, B.C.....	38,406	190,087	20,252	42,839	219,876	23,591
Niagara Falls, Ont.....	18,993	90,878	9,669	19,598	97,870	10,497
Oshawa, Ont.....	29,637	154,820	19,511	31,753	184,807	23,825
Ottawa, Ont.....	124,172	638,764	77,425	130,524	693,320	84,041
Quebec, Que.....	97,134	453,796	40,685	103,796	509,162	34,097
Regina, Sask.....	45,144	215,596	26,028	47,492	232,107	27,091
St. Catharines, Ont.....	35,863	185,926	21,670	40,282	221,322	25,971
St. John's, Nfld.....	24,226	106,726	11,654	26,907	123,320	13,249
Saint John, N.B.....	25,749	111,819	10,796	26,983	118,540	11,951
Saskatoon, Sask.....	34,472	158,364	18,123	38,763	183,614	20,843
Sherbrooke, Que.....	22,706	99,826	8,619	24,329	108,452	6,562
Sudbury and Copper Cliff, Ont.....	33,867	166,870	17,706	37,068	191,849	20,560
Sydney and Glace Bay, N.S.....	23,264	99,282	8,247	24,987	108,618	8,965
Toronto, Ont.....	762,741	3,893,189	509,961	809,769	4,309,212	562,161
Vancouver (incl. West Van.), B.C.....	250,820	1,294,699	163,207	274,145	1,467,884	181,104
Victoria, B.C.....	51,979	247,245	26,755	56,744	285,574	31,512
Windsor, Man.....	61,075	322,374	37,375	68,822	380,712	44,331
Winnipeg, Man.....	173,070	795,104	91,564	179,475	854,664	98,063
Other localities.....	2,154,810	9,603,631	916,585	2,358,555	10,956,381	990,123
Totals.....	5,301,219	25,173,953	2,719,201	5,728,942	28,341,841	2,879,342

¹ Includes old age security tax.

**16.—Number of Taxpayers and Amounts of Income and Tax, by Occupational Class,
1964 and 1965**

Occupational Class	1964			1965		
	Taxpayers	Total Income Assessed	Tax Payable ¹	Taxpayers	Total Income Assessed	Tax Payable ¹
	No.	\$'000	\$'000	No.	\$'000	\$'000
Farmers.....	106,614	526,977	52,301	119,511	612,633	60,591
Fishermen.....	5,755	28,893	3,025	5,476	29,985	3,370
Professionals—						
Accountants.....	4,793	62,411	12,686	5,184	69,714	12,748
Medical doctors.....	15,182	326,019	83,429	15,410	357,963	84,712
Dentists.....	5,102	76,067	16,105	5,357	84,069	16,570
Lawyers and notaries.....	8,328	143,921	35,183	8,374	160,710	37,005
Engineers and architects.....	2,621	44,035	10,648	2,767	53,344	11,509
Employees.....	4,606,207	20,882,428	2,123,193	4,978,382	23,544,991	2,260,573
Salesmen.....	59,723	401,484	51,757	66,185	469,763	57,425
Business proprietors...	224,153	1,278,345	153,320	233,670	1,395,723	155,438
Investors.....	160,452	1,032,838	146,264	130,109	890,031	115,204
Pensioners.....	78,943	254,274	16,226	91,719	308,839	19,892
All others.....	23,346	116,261	15,064	66,798	364,076	44,305
Totals.....	5,301,219	25,173,953	2,719,201	5,728,942	28,341,841	2,879,342

¹ Includes old age security tax.

17.—Individual Income Tax Statistics, by Income Class, 1964 and 1965

Taxable Income	Taxpayers		Total Income Assessed		Tax Payable ¹		Average Tax ¹	
	1964	1965	1964	1965	1964	1965	1964	1965
	No.	No.	\$'000	\$'000	\$'000	\$'000	\$	\$
Under \$1,000.....	28,763	34,859	14,779	18,353	1,744	2,007	61	58
\$ 1,000 and under \$ 2,000....	644,711	660,276	1,007,385	1,030,711	39,155	36,481	61	55
\$ 2,000 " \$ 3,000....	909,264	932,921	2,285,332	2,352,625	149,531	142,701	164	153
\$ 3,000 " \$ 5,000....	1,913,838	1,944,600	7,612,360	7,743,620	606,490	580,876	317	299
\$ 5,000 " \$10,000....	1,562,635	1,860,115	10,151,595	12,229,163	1,064,008	1,190,879	681	640
\$10,000 " \$25,000....	214,184	263,900	2,960,463	3,626,877	504,031	550,012	2,353	2,084
\$25,000 " \$50,000....	22,946	26,612	756,835	885,242	211,463	222,760	9,216	8,371
\$50,000 or over.....	4,878	5,659	385,204	455,250	142,779	153,626	29,270	27,147
Totals.....	5,301,219	5,728,942	25,173,953	28,341,841	2,719,201	2,879,342	513	503

¹ Includes old age security tax.

18.—Corporation Taxable Income, by Industry and Province, 1964 and 1965
(Millions of dollars)

Year and Industry Group	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Other	Total
1964												
1. Agriculture, forestry, fishing, mining, quarrying and oil wells.....	9.7	0.1	2.5	1.3	53.2	124.0	18.6	9.5	28.6	57.0	0.6	305.1
2. Manufacturing.....	19.5	1.8	25.0	28.6	557.3	1,005.4	68.0	27.2	83.0	204.9	2.6	2,023.2
3. Construction.....	3.8	0.6	2.2	2.7	31.7	47.1	4.9	4.8	11.9	11.1	2.4	123.1
4. Utilities.....	20.4	0.8	12.9	7.6	123.5	157.3	18.9	35.0	66.4	61.3	2.3	506.4
5. Wholesale and retail trade.....	11.7	2.4	17.1	17.8	188.0	250.3	36.8	30.5	58.5	79.8	1.6	674.4
6. Finance.....	5.0	7.4	14.0	9.2	188.7	245.9	36.4	15.9	35.9	53.2	19.1	600.7
7. Services.....	1.8	0.2	2.0	1.2	34.1	54.2	6.9	4.3	12.7	19.4	0.8	137.6
Totals, Taxable Income.....	71.9	13.5	75.6	68.4	1,126.6	1,884.1	190.5	127.2	287.0	486.7	29.4	4,370.8
1965												
1. Agriculture, fishing and forestry.....	0.1	0.2	1.0	0.7	1.6	6.2	0.7	1.1	3.3	19.8	—	34.7
2. Mining, quarrying and oil wells.....	7.3	—	3.2	1.0	55.7	27.7	2.2	5.6	30.5	26.9	2.5	162.6
3. Manufacturing.....	16.1	1.9	24.8	24.1	582.7	1,172.0	87.1	28.0	83.4	192.4	6.0	2,189.4
4. Construction.....	4.4	0.8	3.2	4.4	34.9	57.6	5.4	5.8	16.4	16.4	0.8	150.1
5. Utilities.....	22.0	1.3	13.6	8.4	128.5	174.2	20.0	31.5	64.0	68.5	6.1	536.1
6. Wholesale trade.....	6.8	1.2	7.0	7.3	114.6	177.3	19.9	20.1	30.8	44.9	1.7	431.6
7. Retail trade.....	5.9	1.4	12.4	11.4	125.4	125.4	16.9	13.7	25.8	39.2	1.0	329.6
8. Finance, insurance and real estate.....	5.5	1.2	13.1	8.2	153.8	254.5	36.5	14.7	26.4	57.3	44.9	627.1
9. Services.....	2.0	0.2	2.3	1.7	41.5	60.1	7.0	5.1	13.6	26.5	2.3	162.3
Totals, Taxable Income.....	70.1	8.2	80.6	67.2	1,153.6	2,055.9	195.7	127.8	304.2	489.9	65.3	4,623.5

19.—Corporation Taxable Income, by Industry Group by Size of Total Assets, 1965

(Millions of dollars)

Asset Size	Agriculture, Forestry, Fishing	Mining, Quarrying, Oil Wells	Manu- facturing	Con- struction	Utilities
Under 100,000.....	0.2	-4.2	7.2	15.6	4.6
100,000 to 249,999.....	3.4	-3.9	35.4	25.8	11.4
250,000 to 999,999.....	1.8	—	108.3	24.1	19.1
1,000,000 to 4,999,999.....	3.5	5.5	275.5	14.0	39.2
5,000,000 to 24,999,999.....	4.9	25.0	408.3	9.1	53.6
Over 25,000,000.....	4.0	89.0	1,187.3	-3.8	290.7
Net Taxable Income.....	17.8	111.4	2,022.0	84.8	418.6
Add Tax Losses.....	16.9	51.2	167.4	65.3	117.5
Totals, Taxable Income.....	34.7	162.6	2,189.4	150.1	536.1
	Wholesale Trade	Retail Trade	Finance, Insurance, Real Estate	Services	Total
Under 100,000.....	17.5	30.9	12.9	20.5	105.2
100,000 to 249,999.....	48.6	46.3	32.3	26.3	225.6
250,000 to 999,999.....	94.9	40.2	42.9	30.0	361.3
1,000,000 to 4,999,999.....	93.5	32.8	23.3	26.2	513.7
5,000,000 to 24,999,999.....	77.0	32.3	31.6	10.0	651.9
Over 25,000,000.....	46.9	112.4	357.7	2.0	2,085.9
Net Taxable Income.....	378.4	294.9	500.7	115.0	3,943.6
Add Tax Losses.....	53.2	34.7	126.4	47.3	679.9
Totals, Taxable Income.....	431.6	329.6	627.1	162.3	4,623.5

Succession Duties and Estate Taxes

From Jan. 1, 1947 to Mar. 31, 1963, only Ontario and Quebec levied succession duties, the other provinces having leased this field to the Federal Government under the terms of the federal-provincial tax agreements (see p. 1010). However, British Columbia re-entered the field, effective for all deaths occurring on or after Apr. 1, 1963. The incidence of the estate tax is discussed at pp. 1022-1023. Federal revenue from succession duties and estate taxes in the year ended Mar. 31, 1966 amounted to \$108,352,379. In the same year, provincial revenues from succession duties in Quebec, Ontario and British Columbia were \$35,927,000, \$56,968,000 and \$14,992,000, respectively.

Excise Taxes

Excise taxes collected by the Excise Division of the Department of National Revenue are given for the years ended Mar. 31, 1965-67 in Table 20.

20.—Excise Taxes Collected, by Commodity, Years Ended Mar. 31, 1965-67

Commodity	1965	1966	1967
	\$	\$	\$
Sales tax ¹	1,204,609,934	1,395,128,921	1,513,565,998
Other Excise Taxes—			
Automobiles.....	239	—	—
Cigarettes, tobacco and cigars.....	218,343,946	238,080,357	251,434,853
Jewellery, watches, ornaments, etc.....	6,864,180	7,935,585	8,873,785
Matches and lighters.....	1,181,009	1,228,556	1,197,252
Television sets, radios, tubes and phonographs.....	23,521,713	26,960,462	31,186,862
Toilet preparations.....	12,790,734	14,113,979	15,476,344
Wines.....	4,082,094	4,401,603	4,751,633
Sundry commodities.....	1,426,553	2,185,240	1,194,217
Interest and penalties.....	1,208,554	1,620,049	1,951,490
Less refunds and drawbacks.....	-346,938	-347,733	-485,455
Totals.....	1,473,692,013	1,631,307,019	1,829,146,979

¹ Net after deduction of refunds and drawbacks; excludes tax credited to the old age security fund.

Excise Duties

Gross excise duties collected are given in the following statement for the years ended Mar. 31, 1965 and 1966. The totals do not agree with net excise duties as shown in Table 9 because refunds and drawbacks are included. A drawback of 99 p.c. of the duty may be granted when domestic spirits, testing not less than 50 p.c. over proof, are delivered in limited quantities for medicinal or research purposes to universities, scientific or research laboratories, public hospitals, or health institutions in receipt of federal and provincial government aid.

<u>Item</u>	<u>1965</u>	<u>1966</u>
	<u>\$</u>	<u>\$</u>
Spirits.....	134,716,066	156,941,992
Beer or malt liquor.....	105,386,115	107,917,323
Tobacco and cigarettes.....	176,129,508	186,065,386
Cigars.....	1,038,218	1,001,362
Licences.....	32,419	33,897
TOTALS.....	417,302,326	451,959,960

Section 4.—Federal-Provincial Conditional Grants and Shared-Cost Programs*

During the past decade there has been a rapid increase in federal expenditures on joint federal-provincial programs. These programs take three forms: (1) the Federal Government contributes financial assistance to a program administered by a province; (2) the federal and provincial governments each assume the sole responsibility for the construction, administration and financing of separate aspects of a joint project; or (3) the province contributes financially to a joint program administered by the Federal Government.

The first category of joint programs is by far the most common and such programs are commonly called conditional grant programs. They are characterized by the Federal Government agreeing to make money available to a province on certain conditions, such conditions always specifying the field, service or project to which the money must be applied. In addition, the province may be required to make a financial contribution to the program, to provide certain facilities, and to maintain the program at certain specified standards. The various programs in the welfare field are good examples of conditional grant programs. Under the old age assistance program, the Federal Government undertakes to share with a province the cost of assistance to persons who have attained the age of 65 years to the extent of 50 p.c. of a monthly assistance allowance of \$75; the recipient, besides being above a certain age, must have been a resident of Canada for 10 years and his income, including the assistance, must not be in excess of \$1,260 a year if unmarried, \$2,220 if married, and \$2,580 if married to a blind spouse. The provinces are entrusted with the administration of the program and are required to bear the administrative costs as well as one half of the monthly allowance.

Although the old age assistance program, with its specification of the standards for eligibility, the level of the allowance and the federal share of the joint costs, is characteristic of conditional grant programs, there are some in which the conditions are nominal. For

* As at March 1967. Prepared in the Federal-Provincial Relations Division, Department of Finance, Ottawa.

Additional Readings:—

Donald V. Smiley, *Conditional Grants and Canadian Federalism* (Canadian Tax Papers No. 32), Toronto, Canadian Tax Foundation, February 1963. Federal-Provincial Relations Division, Department of Finance, *Federal-Provincial Conditional Grant and Shared-Cost Programmes, 1962*, Ottawa, Queen's Printer, October 1963, \$3 (Catalogue No. F2-2563). Appendix to House of Commons Debates of Sept. 10, 1964. Statutes of Canada 1964-65, c. 54.

example, under the Canada Assistance Plan the Federal Government undertook to share one half of the cost of welfare paid to recipients in need, the scale and conditions of the assistance to be determined by the provinces. In general, it may be said that the old age assistance program conformed to the traditional pattern of conditional grants, whereas the Canada Assistance Plan marks an approach in which flexibility and adaptability to local circumstances is allowed to modify insistence on a national uniform standard.

The federal transfers to the provinces in respect of the conditional grant programs increased from \$75,000,000 in the year ended Mar. 31, 1954, to an estimated \$1,348,795 in 1966-67. The increase was attributable largely to the introduction of the hospital insurance and diagnostic services program in 1958, to the increase in the level of old age assistance, disabled persons' and blind persons' allowances, and to the enlargement and reorientation of unemployment assistance and the Canada Assistance Plan (see pp. 332-333). In 1966-67, federal contributions to the programs in respect of hospital and diagnostic services and unemployment assistance and the Canada Assistance Plan were estimated at \$569,893,000 and \$180,218,000, respectively.

Joint programs in the second category—those in which the federal and provincial governments accept sole responsibility for portions of a total project—are not numerous and are generally of a public works type. The irrigation projects carried out jointly by the Prairie Farm Rehabilitation Administration and the Province of Alberta on the St. Mary's and Bow Rivers in southern Alberta are of this nature, as is the bridge being built between Ontario and Quebec at Portage du Fort. In the St. Mary's irrigation project, the Federal Government has undertaken the responsibility for the construction of all main reservoirs, large dams and connecting works, and Alberta has assumed responsibility for the construction of the distribution system and the development and colonization of the new irrigable areas.

Joint programs in the third category are also few in number and the sums of money involved are seldom large. The South Saskatchewan River Dam is an example; Canada undertook to pay the costs of the Dam in the first instance, with Saskatchewan subsequently reimbursing Canada for one quarter of the federal expenditures (up to a maximum of \$25,000,000) on the dam and reservoir. In the year ended Mar. 31, 1967, the costs recovered from Saskatchewan on account of such expenditures amounted to \$4,797,354.

The increasing number and extent of conditional grant and shared-cost programs has occasioned some provincial criticisms and misgivings. It has been argued that the preponderant occupancy of the direct tax field in the postwar years by the Federal Government encouraged the growth of such programs as the provinces were denied the revenues that would have enabled them to provide equivalent programs themselves. At the 1964 Federal-Provincial Conference, the Province of Quebec proposed that a province be given the option to assume full administrative and financial responsibility for certain joint programs upon the Federal Government making available to that province the necessary additional tax room. The "contracting-out" proposal was referred to a federal-provincial committee of officials for consideration. As a consequence of their consideration, the Prime Minister of Canada, in a letter to the provincial Premiers dated Aug. 15, 1964, proposed a temporary measure permitting a province to contract out of certain programs for an interim period pending the development of more permanent arrangements. Parliament approved the necessary legislation—the Established Programs (Interim Arrangements) Act—in April 1965. Under the Act, the Government of Canada was authorized to enter into agreements with any province that wished to contract out of certain conditional grant programs. The nature and number of programs were itemized in the schedules to the Act.

Schedule I listed the major conditional grant programs of a continuing nature which a province might contract out of, and Schedule II listed smaller and more transient programs.

The Schedule I programs were: (1) hospital insurance; (2) old age assistance, blind persons' allowances, disabled persons' allowances, and the welfare portion of unemployment assistance; (3) the technical and vocational training programs for youths who were not yet members of the labour force; and (4) the health grant program, except those elements that involved research and demonstration. The Schedule II programs were: (1) agricultural lime assistance; (2) the forestry programs; (3) hospital construction grants; (4) campgrounds and picnic areas; and (5) the roads to resources program.

If a province wished to contract out of a Schedule I program, it had to enter into a supplemental agreement in which it undertook to assume full responsibility for the administration and financing of the program. The Federal Government undertook to ensure that the province received revenue equivalent to the fiscal burden it assumed. The Federal Government undertook to (a) abate by a specified percentage the federal individual income tax on the income of residents of the province; (b) pay an associated equalization; and (c) make an operating cost adjustment. The operating cost adjustment payment or recovery was to ensure that a province did not suffer or benefit financially through assuming the financing of the federal share of the former joint program. Because of their smaller size and lack of continuity, the compensation associated with contracting out of a Schedule II program did not provide for federal tax abatement or associated equalization payments. The compensation for these programs was to be paid directly to the province by the federal Minister of Finance.

The freedom of a province to vary the nature and condition of a program which it has contracted out of differed between the Schedule I and Schedule II programs. Under the Act, a supplemental agreement with respect to a Schedule I program could vary the conditions of the original agreement only as to the manner in which Canada would contribute to the program and the manner in which accounts were submitted. A supplemental agreement for a Schedule II program might require the program to be continued as in the original authority or it might allow a province to substitute a provincial program having substantially similar objectives.

The Established Programs (Interim Arrangements) Act was designed to provide for an interim period during which a province might assume greater administrative and financial responsibility for the enumerated programs and during which time more permanent arrangements governing joint programs might be devised. The length of the interim period was set out in the Act for each program and varied from Mar. 31, 1967 to Dec. 31, 1970. The tax abatement associated with Schedule I programs was also set out in the Act and varied from 1 p.c. for the health grant program to 14 p.c. for hospital insurance.

The Province of Quebec alone availed itself of the above legislation and entered into agreements contracting out of all Schedule I programs and one Schedule II program, the forestry program. At the federal-provincial meetings in September and October 1966, the Federal Government proposed a slightly revised contracting-out arrangement to the provinces who had not taken advantage of the Established Programs (Interim Arrangements) Act. The Federal Government proposed to abate, for the period 1967-70, 17 p.c. of the personal income tax in those provinces that would take over the financial responsibility for the hospital insurance, welfare (i.e., Canada Assistance Plan) and health grant programs. To ensure fiscal equity, equalization and operating cost adjustment payments were to be associated with the abatement. As the technical and vocational program was being discontinued in its existing form, the offer did not apply to that program. None of the nine provinces to whom the offer applied accepted the offer. In consequence, the legislation governing the contracting-out arrangements with Quebec was amended to include the Canada Assistance Plan and to extend the interim period to Mar. 31, 1970 for the welfare programs and health grant program.

21.—Conditional Grants and Shared-Cost Programs as at March 1967

Department and Project	Year Estab- lished	Basis of Provincial Apportionment of Federal Funds	Provinces Participating ¹	Provincial Share ²	Maximum Limitation on Grant ³	Federal Contribution 1966-67 ⁴
				p.c.		\$'000
Agriculture—						
Livestock improvement.....	1913	Extent of provincial programs.....	10	5	5	9
Freight assistance on livestock shipments to Royal Winter Fair.....	1946	Extent of provincial programs.....	9 (Ont.)	25	O	33
4-H Club Activities.....	1900	Extent of provincial programs.....	10	50	O	143
Potato Warehouse Construction.....	1947	Estimated cost.....	P.E.I., Man., Sask., B.C.	37½	O	67
Agricultural Lime Assistance.....	1943	Extent of provincial programs.....	7 (Prairie)	40	O	1,600
Land Protection and Reclamation—						
St. Mary's Irrigation.....	1950	Estimated cost.....	Alta.	5	F	556
Bow River Irrigation.....	1950	Estimated cost.....	Alta.	5	F	1,553
Assiniboine River—						
Shellmouth Dam and Portage Diversion.....	1962	Estimated cost.....	Man.	50	O	1,456
South Saskatchewan Dam (dams and reservoir)....	1958	Estimated cost.....	Sask.	25	P	12,373
Assistance in Fodder Transportation.....	ad hoc	Estimated cost.....	varies	50	O	8,366
Crop loss compensation.....	ad hoc	Extent of provincial programs.....	P.E.I., Ont., Man., Sask., Alta., B.C.	50	O	2,260
Crop Insurance.....	1961	Extent of provincial programs.....		0-50 of admin. costs	O	1,334
Indemnity for Losses due to Disease—						
Rabies.....	1959	Incidence of disease.....	N.B., Que., Ont., Sask.	60	O	35
Barberry eradication.....	1964	Extent of provincial programs.....	Que., Ont.	50	O	109
Grants to special fairs.....	1957	Flat grant.....	Nfld., N.B.	5	F	35
Emergency Measures.	1952	Population.....	10	25-50 ⁷	F	5,333
Energy, Mines and Resources—						
Water Conservation.....	1938	Estimated construction costs.....	Ont.	37½-62½	F	1,634
Nelson River Study.....	1963	Estimated survey cost.....	Man.	50	F	—
Lake of the Woods Control Board.....	1921	Estimated capital cost.....	Man., Ont.	66½	O	7,400
Greater Winnipeg Floodway.....	1962	Estimated cost.....	Man.	25-62½	F	4,527
Roads to Resources.....	1958	Flat grant for province.....	10	50	F	23
Atlantic Tidal Power Study.....	1966	Extent of Board program.....	N.S., N.B.	50	O	
Finance—						
Canada Student Loans.....	1965	Grant per eligibility certificate.....	9 (Que.)	6	O	181
Red River Flood.....	ad hoc	Extent of provincial program.....	Man.	25-50	O	8,574
Fisheries—						
Construction subsidy—fishing vessels.....	1942	Extent of provincial programs.....	Atlantic, Que.	—	O	2,151
Industrial development.....	1959	Extent of provincial programs.....	Atlantic	50	O	627

[illegible]

For footnotes, see end of table p. 1045.

21.—Conditional Grants and Shared-Cost Programs as at March 1967—concluded

Department and Project	Year Estab- lished	Basis of Provincial Apportionment of Federal Funds	Provinces Participating ¹	Provincial Share ²	Maximum Limitation on Grant ³	Federal Contribution 1966-67 ⁴
				p.c.		\$ '000
National Health and Welfare—concluded						
National Health Grants—concluded						
Mental Health.....	1948	Flat grant and population.....	10	6	F	9,046
Tuberculosis Control.....	1948	Flat grant, population and T.B. deaths.....	10	6	F	2,290
Public Health Research.....	1948	Based on research needs.....	10	6	F	4,237
Cancer Control.....	1948	Flat grant and population.....	10	50	F	1,499
General Public Health.....	1948	Flat grant and population.....	10	6	F	14,893
Child and Maternal Health.....	1953	Flat grant, provincial infant birth and death ratio.....	10	6	F	1,219
Medical Rehabilitation and Crippled Children.....	1953-48	Flat grant and population.....	10	50 ^a	F	2,386
Health Resources Fund.....	1966	\$300,000,000 on basis of population.. \$175,000,000 by Federal Government.. \$25,000,000 agreement of Atlantic Prov- inces.....	10	50	F	4,705
Hospital Insurance.....	1958	Population eligible for hospitalization X (25 p.c. of average national per capita costs + 25 p.c. of average provincial per capita costs).....	10	5	O	569,893
Old Age Assistance.....	1952	Needy population (age group 65-67).....	10	50	O	31,971
Blind Persons' Allowances.....	1937	Needy blind population (age group 18- 67).....	10	25	O	5,060
Disabled Persons' Allowances.....	1954	Needy disabled population (age group 18-67).....	10	50	O	23,550
Unemployment Assistance.....	1955	Needy unemployed.....	10	50	O	168,722
Canada Assistance Plan.....	1966	Individuals in need.....	10	50	O	10,496
Fitness and Amateur Sport.....	1962	Flat grant and population.....	9 (Que.)	40	O	641
Disability Advisory Services.....	1954	Extent of provincial programs.....	9 (Ont.)	50	O	22
Blind Pensioners—treatment.....	1948	Extent of provincial programs.....	8 (Alta., B.C.)	25	O	15
National Welfare Grants—						
Welfare research.....	1962	Based on need.....	8 (P.E.I., Que., 9 (N.B.))	6	F	474
General welfare and professional training	—	Estimated cost.....		50 ^a	O	68
Hospitalization and welfare of Indigent Immigrants	1947			50		
National Research Council—						
Technical Information Services.....	1952	Extent of provincial programs.....	7 (Nfld., P.E.I., Que.)	6	O	273
Public Works—						
Trans-Canada Highway.....	1950	Provincial mileage and extent of provin- cial programs.....	10	10-50	O	81,015
Matane-Gaspé North Highway.....	1965	Mileage contribution.....	Que.	9	F	2,919
Portage du Fort Bridge.....	1966	Estimated cost.....	Ont., Que.	50	O	274
Okanagan Flood Control.....	1950	Estimated cost.....	B.C.	50	O	31

Urban Redevelopment ¹⁰	1944	Project cost.....	10	507	O	6,633
Urban Renewal Studies ⁹	1956	Project cost.....	10	25-507	O	1,310
Land Assembly and Low-Rental Housing ⁹	1949	Project losses.....	10	257	O	2,109
Sewage Facilities—capital forgiveness.....	1954	Work completed.....	10	25	O	7,869
Secretary of State—						
Centennial observance.....	1961	Flat grant and population.....	10	—	F	18,595
Trade and Commerce—						
Vital Statistics.....	1909	Estimated cost.....	10	6	O	71
Transport—						
Railway Grade Crossing Fund.....	1909	Approved construction.....	10	124-157	F	6,747
Railway abandonment—highway improvement.....	1965	Half of capitalized value of savings.....	N.B.	9	F	575
Trunk highways.....	1965	Ratio 3:3:3:1.....	Atlantic	25-50	O	11,673
Municipal Airports.....	1927	Related to airport operational deficit....	10	—	O	185
Operational subsidy.....	—	Approved capital projects.....	10	507	F	949
Capital.....	—					

- ¹ Provinces excepted are shown in parentheses.
² As here used, 50 p.c. may mean the province must contribute 50 p.c. of the cost of the project or must match the federal contribution.
³ F = a maximum limit set to the federal share; P = a maximum limit to the provincial share; and O = federal and provincial shares are open-ended.
⁴ Source: *Public Accounts of Canada, 1966-67*.
⁵ Not uniform.
⁶ Provinces to provide administration, services, facilities, land, loans or to undertake a specific portion of the project, etc.
⁷ Represents the provincial and/or municipal share.
⁸ Provinces to maintain existing level of expenditures or to bear residuary costs.
⁹ Share for provision of services only.
¹⁰ Disbursement made by Central Mortgage and Housing Corporation as Federal Government agent.

Section 5.—Provincial Government Finance

Provincial government accounting and reporting practices vary considerably so that certain adjustments to the *Public Accounts* figures are required in order to produce comparable statistics. For example, transactions relating to a specific function are sometimes excluded from ordinary account; therefore special or administrative funds of this nature have been added to provincial ordinary account in the tables of this Section. The fiscal years of all provinces end on Mar. 31.

Revenue and Expenditure.—Table 22 shows net general revenue and expenditure of provincial governments for the years ended Mar. 31, 1961-65 and Tables 23 and 24 give details of such revenue and expenditure for the fiscal year ended Mar. 31, 1965. "Net general revenue" and "net general expenditure" are arrived at by first analysing the combined revenues and expenditures of capital account, current or ordinary account and those working capital funds and special funds for which separate accounts are kept. Then the following types of revenue are deducted from revenue and offset against related expenditure: interest, premium, discount and exchange; institutional revenue; and grants-in-aid and shared-cost contributions from other governments. Table 25 gives details of the amounts paid to other governments by provincial governments, according to nature of payment.

22.—Net General Revenue and Expenditure of Provincial Governments, Years Ended Mar. 31, 1961-65

Province or Territory	1961	1962	1963	1964	1965
NET GENERAL REVENUE					
	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	64,461	68,859	76,131	80,991	94,279
Prince Edward Island.....	16,093	17,877	19,200	19,325	21,319
Nova Scotia.....	92,225	102,259	113,788	113,667	129,343
New Brunswick.....	86,628	84,255	90,121	94,623	109,479
Quebec.....	640,711	758,110	864,589	948,355	1,239,841
Ontario.....	833,128	927,113	1,095,310	1,181,895	1,358,235
Manitoba.....	104,145	118,020	130,615	136,233	162,477
Saskatchewan.....	148,920	156,651	201,283	216,907	236,408
Alberta.....	245,483	272,978	293,917	319,708	383,111
British Columbia.....	320,288	346,420	363,927	398,490	463,776
Yukon Territory.....	2,308	2,357	3,423	4,183	4,704
Northwest Territories.....	1,744	1,861	3,510	4,170	4,558
Canada.....	2,556,134	2,856,760	3,255,814	3,518,547	4,207,530
NET GENERAL EXPENDITURE¹					
	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	74,713	83,559	100,868	105,216	125,973
Prince Edward Island.....	15,386	19,351	22,545	22,499	24,344
Nova Scotia.....	111,689	107,559	113,180	125,408	132,427
New Brunswick.....	94,868	94,719	100,954	112,045	117,381
Quebec.....	749,296	847,612	951,953	1,096,815	1,437,037
Ontario.....	937,308	1,036,709	1,172,444	1,240,240	1,381,400
Manitoba.....	137,055	137,237	146,479	162,238	184,874
Saskatchewan.....	150,027	158,744	178,992	208,857	226,463
Alberta.....	266,314	279,128	282,263	276,034	310,797
British Columbia.....	331,476	338,567	356,867	392,370	406,817
Yukon Territory.....	2,610	2,925	4,934	4,616	4,907
Northwest Territories.....	2,033	2,167	3,951	4,027	4,694
Canada.....	2,872,775	3,108,277	3,435,430	3,750,365	4,357,114

¹ Excludes debt retirement.

PROVINCIAL GOVERNMENT FINANCE

1047

Source	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Taxes—													
Income—	467	106	1,105	841	33,036	14,866	1,501	1,065	2,664	3,558	—	—	59,209
Corporations.....	5,647	258	5,827	5,018	130,034	217,677	15,508	12,107	23,488	40,098	—	—	455,076
Individuals.....	4,123	908	9,976	6,230	170,191	196,842	24,287	20,594	27,753	47,823	—	—	507,727
Property.....	—	—	95	395	—	1,440	—	8	—	7,969	333	14	10,254
Sales—	1	516	1	1	—	—	—	1	—	1	83	—	599
Alcoholic beverages.....	137	481	296	296	11,557	15,218	1,026	135	1,011	1,885	—	—	31,733
Amusements and admissions.....	1	73	73	73	167,212	235,038	32,141	32,095	40,996	53,711	543	708	616,077
Motor fuel and fuel oil.....	9,895	3,343	22,108	18,287	27,584	27,584	—	—	—	—	—	—	31,224
Tobacco.....	1,088	387	2,185	2,185	288,796	199,205	5,395	49,872	—	128,947	—	—	725,709
General.....	18,482	3,016	19,612	12,384	—	—	—	—	3	—	—	—	14,336
Other commodities and services.....	—	—	13,904	—	48,682	—	3	2	—	8,112	—	—	12,229
Succession duties.....	—	—	1	—	35,426	114,222	12,924	13,607	—	256	—	—	140,753
Hospital insurance premiums.....	—	—	—	99	2,279	10,318	988	386	62	—	—	—	14,838
Other.....	350	4	96	—	—	—	—	—	—	—	—	—	—
Totals, Taxes.....	40,189	8,095	59,683	45,735	879,999	1,052,508	93,773	129,871	95,977	292,289	973	722	2,699,814
Privileges, Licences and Permits—													
Liquor control and regulation.....	4,188	46	307	297	20,573	29,351	3,163	113	1,242	626	15	72	59,993
Motor vehicles.....	3,292	927	6,985	6,000	53,636	90,352	10,172	9,605	15,833	24,640	229	119	221,720
Natural resources.....	1,318	17	1,511	4,271	39,894	42,845	5,963	36,677	213,014	94,856	36	45	440,447
Other.....	1,069	148	804	1,116	14,922	10,423	2,125	1,664	2,780	3,599	117	44	38,811
Totals, Privileges, Licences and Permits.....	9,797	1,138	9,607	11,684	129,025	172,971	21,423	48,059	232,869	123,721	397	280	760,971
Sales and services.....	562	436	2,555	2,363	13,588	21,089	2,984	6,626	8,411	8,853	40	47	67,554
Fines and penalties.....	445	87	954	370	2,707	3,173	691	1,100	2,076	1,129	32	30	12,282
Liquor profits.....	3,408	1,684	13,662	11,422	39,621	84,620	15,412	16,765	26,640	35,127	880	988	250,531
Other revenue.....	136	24	35	128	23,029	641	15,147	5,513	1,429	124	4	1	31,211
Government of Canada—													
Federal-provincial fiscal arrangements.....	29,349	9,123	40,271	35,865	113,240	15,116	25,481	25,643	9,592	—	2,302	2,480	308,462
Statutory subsidies.....	9,656 ²	657	2,132	1,745	3,962	4,624	2,117	2,124	2,887	1,673	—	—	31,577
Share of income tax on power utilities.....	243	60	738	55	4,265	1,064	50	13	2,807	284	—	—	9,679
Compensation due to withdrawal from joint programs.....	—	—	—	—	20,682	—	—	—	—	—	—	—	20,682
Crown corporations (provincial taxes and fees).....	399	2	194	15	1,658	1,157	2	10	11	357	—	—	3,805
Totals, Government of Canada.....	39,647	9,842	43,335	37,680	143,807	21,961	27,650	27,790	15,397	2,314	2,302	2,480	374,205
Totals, excluding Non-revenue and Surplus Receipts.....	94,184	21,306	129,331	109,352	1,231,776	1,357,263	162,680	235,724	382,799	463,547	4,628	4,548	4,196,568
Totals, Net General Revenue.....	94,279	21,319	129,343	109,479	1,239,841	1,358,235	162,477	236,408	383,111	463,776	4,704	4,558	4,297,530

¹ Taxed under the general sales tax.² Includes additional subsidy of \$8,000,000.

24.—Net General Expenditure of Provincial Governments, Year Ended Mar. 31, 1965

Function	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
General government.....	5,932	1,521	5,652	5,525	57,114	53,545	6,714	9,510	7,550	24,202	599	125	177,989
Protection of persons and property.....	4,194	553	4,009	3,160	55,922	64,581	7,449	10,069	18,512	18,828	565	756	188,598
Transportation and Communications—													
Highways, roads and bridges.....	28,114	7,013	29,725	28,624	244,171	300,444	34,776	34,646	60,600	77,420	645	212	846,390
Waterways.....	102	270	439	600	587	—	51	585	243	—	34	—	5,790
Other.....	—	7	58	—	886	858	164	627	—	—	3	—	2,603
Totals, Transportation and Communications.....	28,216	7,290	30,222	29,224	245,644	301,302	34,991	35,858	60,843	80,299	682	212	854,783
Health and Social Welfare—													
Health.....													
General health.....	252	123	240	384	2,105	4,394	341	571	931	1,542	—	19	10,902
Public health.....	818	482	2,196	2,112	14,542	14,112	3,887	3,891	1,938	5,064	199	619	49,860
Medical, dental and allied services.....	2,222	27	732	191	2,367	2,504	1,750	25,831	4,976	5,542	—	1	46,143
Hospital care.....	25,902	2,419	22,418	20,360	232,243	256,655	33,742	40,160	44,248	54,903	382	426	733,858
Social Welfare—													
Aid to aged persons.....	2,318	1,020	2,564	2,529	26,534	16,156	4,520	7,195	4,590	14,039	—	73	81,538
Aid to blind persons.....	132	19	180	165	1,235	535	153	306	160	320	1	11	3,217
Aid to unemployed and unemployables.....	8,627	308	5,384	1,596	54,713	25,474	4,082	6,507	17,391	9,892	36	128	134,138
Mothers' allowances.....	—	248	—	2,084	21,068	12,230	—	—	741	—	—	—	36,371
Child welfare.....	668	214	1,046	772	36,418	8,446	2,713	1,539	3,409	4,643	65	45	59,978
Labour.....	90	21	182	410	4,347	2,319	437	322	479	563	—	—	9,170
Other social welfare.....	1,297	78	45	594	11,461	4,645	2,173	2,876	2,763	2,438	90	7	28,467
Totals, Health and Social Welfare.....	42,326	4,959	34,987	31,197	407,033	347,470	53,798	89,198	81,626	98,946	773	1,329	1,193,642
Recreational and cultural services.....	343	258	1,811	554	5,000	13,546	1,944	3,744	3,257	3,494	89	68	34,108
Education—													
Schools operated by local authorities.....	22,511	4,168	25,565	13,021	255,769	314,708	31,241	43,460	77,776	79,507	1,552	1,755	871,033
Universities, colleges and other schools.....	4,327	766	5,711	7,100	120,541	80,820	9,331	12,967	23,340	22,722	3	17	233,654
Education of the handicapped.....	—	31	—	—	346	6,664	246	352	804	1,380	2	14	10,689
Superannuation and pensions.....	—	86	2,495	464	—	21,912	370	1,444	1	4,111	—	—	29,257
Other.....	705	133	626	398	26,314	6,036	1,008	1,266	1,096	1,226	—	19	38,827
Totals, Education.....	27,834	5,101	34,617	21,216	401,542	430,140	42,196	59,489	109,017	108,946	1,557	1,805	1,243,460

[illegible]

25.—Amounts Paid to Other Governments by Provincial Governments, Year Ended Mar. 31, 1965

Nature of Payment	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Paid to Local Governments—													
Shared-revenue contributions ¹	—	—	—	—	—	1,330	—	—	249	—	—	—	1,648
Subsidies.....	2,015	448	1,310	7,550	83,454 ²	31,192 ³	2,688	125	16,500	13,483	172	135	159,072
Grants in lieu of local taxes on provincial government property ⁴	—	—	—	6	—	2,222	302	10	1,545	—	—	—	4,085
Grants-in-Aid and Shared-Cost Contributions—													
Corrections.....	—	—	6	32	—	443	—	—	—	—	—	—	481
Police protection.....	—	—	—	—	—	355	—	—	71	—	—	—	426
Fire protection.....	—	2	—	—	1,400	237	—	—	—	—	—	—	1,639
Other protection.....	—	—	—	—	33	9	—	—	—	—	—	—	42
Highways, roads and bridges.....	392	44	264	238	9,766	97,129	3,560	7,641	6,053	450	53	28	125,618
Public health.....	77	—	17	—	6,199	3,595	90	265	1,747	340	—	—	12,330
Medical, dental and allied services.....	—	—	—	—	—	40	103	3	—	—	—	—	145
Hospital care ⁵	—	—	938	419	—	—	—	3	—	—	—	—	135
Aid to aged persons (homes).....	—	—	—	—	—	1,932	—	—	—	—	—	—	1,860
Aid to unemployed and unemployables.....	—	40	1,668	2,160	—	25,976	2,164	6,293	2,708	19,836	—	15	1,997
Child welfare.....	—	—	—	488	—	6,564	—	1	—	—	—	—	60,950
Other health and social welfare.....	—	—	—	—	—	327	26	—	—	—	—	—	7,053
Parks, beaches and other recreational areas.....	—	—	—	—	—	1,258	—	16	96	—	—	—	355
Other recreational and cultural services.....	—	—	—	44	—	46	—	—	—	—	—	—	1,370
Schools operated by local authorities ⁶	7	3,933	23,643	11,586	283,597	324,722	31,233	41,779	74,311	74,389	8	195 ⁷	869,398
Lands—													
Settlement and agriculture.....	—	—	—	8	384	1,030	401	194	275	11	—	—	2,303
Other.....	—	—	—	3	230	6,576 ⁸	213	1,059	—	—	—	—	8,081
Local government planning and development.....													
Civil defence.....	—	—	6	142	—	1,511	9	357	281	21	—	3	2,330
Winter works projects.....	—	319	113	111	—	1,455	—	—	179	635	—	—	2,713
Other payments.....	164	22	117	14	33,086	7,109	1,677	2,348	2,449	6,204	—	45	53,518
					3,377 ¹¹	76	5	3	—	—	—	71	3,568
Totals, Paid to Local Governments.	2,648	4,808	28,081	22,801	421,746	515,194	42,466	60,100	106,464	115,547	225	492	1,320,572
Paid to Government of Canada—													
Police services—RCMP.....	1,825	168	—	659	—	—	1,318	1,610	1,989	2,444	—	—	10,938
Other ¹²	—	—	—	—	150	35	—	1,962	—	—	—	1,054	3,201
Totals, Paid to All Governments....	4,473	4,976	29,006	23,460	421,896	515,229	43,784	63,672	108,453	117,991	225	1,546	1,334,711

¹ N.S.—Share of Crown land leases; Ont.—share of liquor licences; Alta.—share of liquor fines.

² Includes compensation of \$83,204,000 payable to municipalities in lieu of the right to impose a sales tax.

³ Includes payments of \$25,205,000 under the Municipal Unconditional Grants Act.

⁴ Does not include grants in lieu of taxes paid by provincial government enterprises.

⁵ Includes grants paid directly to teachers in P.E.I., N.B. and Que.

⁶ Local schools are operated by the territorial government and by religious denominations.

⁷ Primary and secondary schools are operated on a denominational basis.

⁸ Local schools are operated by the Federal Government, religious denominations and school districts; the amount shown was paid to school districts.

⁹ Local schools are operated by the Federal Government, religious denominations and school districts; the amount shown was paid to school districts.

¹⁰ Includes grants of \$6,569,000 to conservation authorities.

¹¹ Includes \$3,348,000 interest assumed on loans by the City of Montreal and the Montreal Metropolitan Corporation.

¹² Consists of: Que.—Department of Mines and Technical Surveys \$1,600,000; Ont.—amalgamated and amalgamated \$1,960,000; Department of Northern

Debt of Provincial Governments.—Table 26 shows total bonded debt, by province, as at Mar. 31, 1964-66. Table 27 shows that the majority of bond issues are payable in Canada. Table 28 provides details of total direct and indirect debt of provincial governments as at Mar. 31, 1966.

26.—Gross Bonded Debt (exclusive of Treasury Bills) of Provincial Governments, as at Mar. 31, 1964-66

Province and Year	Bonded Debt	Average Interest Rate	Average Term of Issue	Province and Year	Bonded Debt	Average Interest Rate	Average Term of Issue
	\$'000	p.c.	yrs.		\$'000	p.c.	yrs.
Newfoundland—				Ontario—concluded			
1964.....	154,364	5.41	20.0	1965.....	2,047,107	4.35	21.4
1965.....	180,400	5.48	20.8	1966.....	2,264,646	4.60	21.3
1966.....	211,871	5.61	21.2	Manitoba—			
Prince Edward Island—				1964.....	301,610	4.36	15.9
1964.....	31,604	5.02	16.7	1965.....	295,149	4.43	16.2
1965.....	37,904	5.10	17.3	1966.....	294,706	4.52	16.8
1966.....	41,562	5.28	18.3	Saskatchewan—			
Nova Scotia—				1964.....	559,120	4.69	19.0
1964.....	344,171	4.36	18.6	1965.....	595,740	4.75	18.9
1965.....	365,282	4.37	19.4	1966.....	606,936	4.76	19.1
1966.....	376,393	4.48	19.7	Alberta—			
New Brunswick—				1964.....	10,983	2.83	18.8
1964.....	262,980	4.38	19.4	1965.....	9,480	2.84	19.5
1965.....	284,984	4.50	20.3	1966.....	8,283	2.86	20.0
1966.....	297,090	4.57	20.9	British Columbia—			
Quebec—				1964.....	74,007	3.42	24.2
1964.....	974,957	4.74	17.2	1965.....	70,411	3.44	24.6
1965.....	1,085,728	4.94	17.4	1966.....	70,211	3.44	24.6
1966.....	1,340,812	5.07	17.4	Totals—			
Ontario—				1964.....	4,651,116	4.47	19.6
1964.....	1,937,320	4.29	21.6	1965.....	4,972,185	4.57	19.7
				1966.....	5,512,510	4.74	19.8

27.—Gross Bonded Debt¹ (exclusive of Treasury Bills) of Provincial Governments, by Place of Payment, as at Mar. 31, 1964-66

Payable in—	1964	1965	1966
	\$'000	\$'000	\$'000
Canada.....	3,672,442	3,939,482	4,390,263
Britain.....	—	—	—
Britain and Canada.....	—	—	—
United States.....	884,910	945,146	1,006,202
United States and Canada.....	52,148	50,654	84,070
Britain, United States and Canada.....	32,513	27,800	22,872
Switzerland.....	9,103	9,103	9,103
Totals.....	4,651,116	4,972,185	5,512,510

¹ Excludes bonds assumed by the provinces.

28.—Provincial Government Direct and Indirect Debt (less Sinking Funds), as at Mar. 31, 1966

Direct and Indirect Debt		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
		\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Direct Debt—														
Funded Debt—														
Bonded debt.....	211,871	41,562	376,393	297,090	1,340,812	2,264,646 ¹	294,706	606,935	8,253 ²	70,211	—	—	—	5,512,509
Less sinking funds.....	24,262	6,157	91,799	79,136	138,316	140,281	65,284	126,534	—	70,211	—	—	—	741,980
Net bonded debt.....	187,609	35,405	284,594	217,954	1,202,496	2,124,365	229,422	480,401	8,253	—	—	—	—	4,770,529
Net treasury bills (term of 2 or more years).....		—	—	—	4,196	60,000	—	20,267	24,843	5,870	—	—	—	115,176
Net Funded Debt.....		187,609	35,405	284,594	222,150	1,262,496	2,124,365	249,689	505,244	14,153	—	—	—	4,885,705
Short-term treasury bills (term of less than 2 years).....		—	—	—	—	—	—	—	—	—	—	—	—	—
Temporary loans and overdrafts.....	22,951	11,850	36,500	2,858	5,226	—	67,308	28,300	—	—	—	—	—	143,958
Trust funds, savings and other deposits.....	—	9,530	15,984	321	2,983	—	22,983	11,159	—	—	—	—	—	104,364
Accounts and other payables.....	31,916	4,844	8,824	1,366	342	266,472	2,379	4,223	8,086	20	13,763	73	—	287,524
Accrued interest and other accrued expenditure.....	609	3,175	24,102	17,819	288,785 ³	82,235	4,223	—	25,769	33,489	9,927	6,480	—	536,006
Totals, Direct Debt (less Sinking Funds)	243,065	64,804	366,032	350,443	1,588,084⁵	2,533,843	368,458	560,801	40,637	58,959	10,000	6,480	6,091,026	
Indirect Debt—														
Guaranteed bonds or debentures.....		64,725	8,036	8,032	150,736	2,040,540	1,695,074	418,440	19,836	521,381	1,541,826	—	—	6,468,626
Less sinking funds.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net guaranteed bonds or debentures.....	64,725	8,036	8,032	150,736	2,040,540	1,695,074	418,440	19,836	—	521,381	1,541,826	—	—	289,262
Guaranteed bank loans.....	28,823	7,846 ⁶	9,470	148,699	1,980,583	1,638,158	400,400	19,836	502,114	1,409,813	18,013	—	—	6,179,364
Municipal Improvement Assistance Act loans.....	—	—	—	6,132	191,817	80,441	6,250	13,988	2,175	605	—	—	—	347,547
Other guarantees.....	3	—	119	44	—	—	—	60	16	20	—	—	—	803
Totals, Indirect Debt (less Sinking Funds)	93,551	15,882	16,689	154,775	2,172,944	1,718,599	406,650⁷	36,545	599,962⁸	1,433,456	—	—	—	6,559,653
Totals, Direct and Indirect Debt (less Sinking Funds)	336,636	80,686	382,721	405,218	3,761,028	4,252,442	775,108	597,346	519,999	1,492,415	10,000	6,480	12,650,079	
Direct debt (less sinking funds) per capita.....	403	595	484	406	275	364	383	587	27	31	714	223	304	
Indirect debt (less sinking funds) per capita.....	190	146	22	251	376	247	422	38	349	765	—	—	328	

¹ Includes bonds issued by the Ontario Junior Farmer Establishment Loan Corporation \$11,000,000 and by the Ontario Municipal Improvement Corporation \$28,000,000.
² Excludes bonds due \$2,000.
³ Includes debts assumed by the province as follows: Metropolitan Boulevard \$61,200,088, loans of the Quebec Municipal Commission for the settlement of school debts in 1947 \$13,988,900, loans contracted by certain Universitarian Institutions \$42,673,645, loans of the Village of Parent \$521,000.
⁴ Includes net liability of the province re Ontario Savings Office \$78,502,000 at Mar. 31, 1966.
⁵ Excludes debt of toll road authority.
⁶ Amount authorized; information re amounts outstanding not available.
⁷ In addition, the province has guaranteed the interest on school district debentures having a par value of \$4,055,000; on sewage disposal and water supply systems debentures having a par value of \$2,504,000, and on principal of mortgage loans under the Elderly Persons Housing Act of \$1,221,000. An undertaking was also given to service a mortgage loan obtained by Brandon College Incorporated from Central Mortgage and Housing Corporation, the balance of principal being \$1,469,000.
⁸ Excludes guaranteed interest under the School Borrowing Assistance Act and the School Buildings Assistance Act on principal borrowings of \$9,863,000.

Section 6.—Municipal Government Finance

Municipal Taxation.—Table 29 shows, for the year 1964, local taxes levied by municipalities and by some school authorities and total taxes outstanding at the end of the year. Because of the considerable differences in the division of responsibility for services between the provincial governments and their respective municipalities, these figures should not be used as a basis for interprovincial comparisons of the relative burden of municipal taxation.

29.—Municipal Taxation, by Province, 1964

Item	New-found-land	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
Taxation revenue..... \$'000	6,935	3,913	48,950	39,250	449,734	805,515
Tax Collections, Current and Arrears—						
Total..... \$'000	6,333	3,630	47,517	38,393	..	804,444
Percentage of taxation revenue..... p.c.	91.31	92.77	97.07	97.82	..	99.87
Taxes receivable, current and arrears..... \$'000	2,782	1,131	15,267	13,787	61,375 ¹	84,590
Percentage of taxation revenue..... p.c.	40.11	28.90	31.19	35.13	..	10.50
	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon Territory	North-west Territories
Taxation revenue..... \$'000	94,889	100,235	147,776	178,002	232	499
Tax Collections, Current and Arrears—						
Total..... \$'000	92,529	97,669	145,322	175,619	219	482
Percentage of taxation revenue..... p.c.	97.51	97.44	98.34	98.66	94.39	96.59
Taxes receivable, current and arrears..... \$'000	16,575	19,401	27,804	7,092	126	122
Percentage of taxation revenue..... p.c.	17.47	19.36	18.81	3.98	54.31	24.45

¹ Data for Quebec schools not available.

Municipal Revenue, Expenditure and Debt.—Tables 30, 31 and 32 show comparative totals and details of current revenue and expenditure of municipal governments, by province, and Table 33 sets out the direct and indirect debt of local governments for the fiscal years ended nearest Dec. 31, 1964.

30.—Current Revenue and Expenditure of Municipal Governments, by Province, Fiscal Years Ended Nearest Dec. 31, 1964

Province	Current Revenue ¹	Current Expenditure ²	Province or Territory	Current Revenue ¹	Current Expenditure ²
	\$'000	\$'000		\$'000	\$'000
Newfoundland.....	10,605	9,978	Saskatchewan.....	138,540	136,900
Prince Edward Island.....	4,739	4,676	Alberta.....	216,751	215,338
Nova Scotia.....	64,685	64,497	British Columbia.....	250,849	248,351
New Brunswick.....	56,817	55,999	Yukon Territory.....	560	518
Quebec.....	615,338	616,044	Northwest Territories.....	971	924
Ontario.....	1,067,449	1,052,280			
Manitoba.....	118,532	118,307	Canada.....	2,545,836	2,523,812

¹ Includes surplus from previous years (see Table 31).

² Includes deficit from previous years (see Table 32).

31.—Details of Current Revenue of Municipal Governments, Fiscal Years Ended Nearest Dec. 31, 1964

Source	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Taxes, General and School—													
Real property.....	4,094	3,057	36,895	26,993	375,769	781,167	79,331	93,162	126,740	161,398	190	437	1,689,233
Personal property.....	4	172	7,758	8,660	32,277	2	6,653	..	8,121	3,880	...	...	16,594
Business.....	1,417	464	1,817	1,172	32,277	2	6,653	2 45	...	...	...	6	54,635
Poll.....	1,199	140	1,709	3,263	1,996	49	...	1,023	...	...	...	7	5,417
Sales and amusement.....	1,138	...	...	...	1,996	...	526	1,023	...	...	...	...	4,683
Other.....	30	—	184	226	6,510	...	56	200	—	9	...	...	7,215
Special assessments (owner's share) and charges.....	53	80	587	103	33,132	24,299	8,323	5,805	12,915	12,715	42	49	98,153
Totals, Taxes.....	6,935	3,913	48,950	39,250	449,734	805,515	94,889	100,235	147,776	178,002	232	499	1,875,930
Licences and permits.....	211	67	477	351	8,558	9,102	1,842	2,740	3,193	7,549	45	13	34,148
Interest, tax penalties, etc.....	23	7	750	427	2,581	10,218	1,961	1,776	2,569	2,850	6	9	23,177
Contributions, Grants and Subsidies—													
Governments.....	2,301	527	9,916	13,902	108,930	167,953	11,037	17,816	29,921	38,035	271	373	400,982
Government enterprises.....	126	97	1,293	841	3	11,342	3,511	8,791	15,873	5,445	—	5	47,324
Other.....	463	2	326	105	993	624	696	1,508	98	1,512	—	41	6,458
Miscellaneous revenue.....	510	85	1,435	1,113	44,542	47,666	3,389	4,603	16,662	11,671	6	22	131,704
Totals, Revenue.....	10,569	4,698	63,147	56,079	615,338	1,032,420	117,325	137,469	216,092	245,061	560	962	2,519,723
Surplus from previous years.....	36	41	1,538	738	...	15,029	1,207	1,071	659	5,785	..	9	26,113
Grand Totals.....	10,605	4,739	64,685	56,817	615,338	1,067,449	118,532	138,540	216,751	250,849	560	971	2,545,836

¹ Included with personal property.² Included with real property.³ Included with contributions from governments.

MUNICIPAL GOVERNMENT FINANCE

1055

Function	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
General government.....	1,186	278	3,966	3,691	60,514	62,594	8,566	8,166	12,550	13,054	74	131	174,770
Protection of persons and property.....	703	515	7,914	5,573	81,242	129,420	13,379	10,084	23,994	32,619	109	51	305,603
Public works.....	2,483	432	3,448	3,367	67,298	141,893	17,034	27,135	27,278	17,838	91	111	308,408
Sanitation and waste removal.....	1,046	109	1,373	811	16,997	47,755	3,475	3,040	6,484	7,951	62	32	89,135
Health.....	5	1	3,535	1,674	6,632	18,851	2,047	3,679	13,314	2,660	—	21	52,419
Social welfare.....	2	58	3,463	3,991	6,987	58,058	4,364	6,928	4,619	25,424	—	3	113,897
Education.....	477	1,084	21,883	23,606	150,553 ¹	296,367	34,930	43,992	57,339	67,298	—	280	698,409
Recreation and community services.....	334	114	1,030	1,155	21,653	39,913	4,276	4,820	8,836	11,743	10	37	93,921
Debt Charges— Debtenture and other long-term ²	974	1,278	12,792	8,196	101,435	185,957	18,221	14,103	42,367	47,131	112	25	492,491
Other.....	196	70	633	622	2,548	6,502	390	788	538	827	— ¹	1	13,115
Contributions to own government enterprises (deficits and levies).....	420	14	62	548	—	13,117	3,380	4,953	3,548	2,467	—	63	28,572
Provision for reserves.....	265	75	1,452	758	905	12,801	2,889	2,826	3,613	5,244	4	10	30,842
Contributions to capital and loan fund.....	1,646	18	1,823	440	35,658	21,280	2,778	4,264	6,757	12,707	147	140	87,658
Joint or special expenditure.....	—	—	—	—	—	4,391	224	—	—	—	—	—	4,615
Miscellaneous expenditure.....	241	30	715	1,284	3,622	12,379	1,202	2,014	3,996	1,388	9	19	26,899
Totals, Expenditure.....	9,978	4,676	64,089	55,716	616,044	1,051,278	117,155	136,792	215,233	248,351	518	924	2,520,754
Deficit from previous years.....	—	—	408	283	—	1,002	1,152	108	105	—	—	—	3,058
Grand Totals.....	9,978	4,676	64,497	55,999	616,044	1,052,280	118,307	136,900	215,338	248,351	518	924	2,523,812

¹ Estimated.
estimated.² Charges on debentures issued for school purposes are included herein and not under Education; school debenture debt charges for Quebec have been

33.—Debt of Municipal and School Corporations, as at Fiscal Year-Ends Nearest Dec. 31, 1964

Direct and Indirect Debt	Nfld.	P.E.I.	N.S.	N.B.	Que. ¹	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Direct Debt (less Sinking Funds)—													
Debtenture debt.....	22,102	12,162	116,748	90,769	1,556,403	2,114,948	238,868	208,760	519,832	558,922	856	193	5,440,563
Less sinking funds.....	166	2,138	3,638	7,689	3,839	137,560	26,267	16,977	4,103	57,968	—	—	260,345
Net debtenture debt.....	21,936	10,024	113,110	83,080	1,552,564	1,977,388	212,601	191,783	515,729	500,954	856	193	5,180,218
Temporary loans and bank overdrafts.....	9,952	1,117	16,036	11,797	89,936	111,733	24,524	13,341	12,910	16,125	—	33	307,504
Accounts payable and other liabilities.....	9,811	258	11,542	8,425	141,943	244,784	23,738	26,215	48,479	36,882	99	210	552,386
Totals, Direct Debt (less Sinking Funds).....	41,699	11,399	140,688	103,302	1,784,443	2,333,905	260,863	231,339	577,118	553,961	955	436	6,040,108
Indirect Debt (less Sinking Funds)—													
Guaranteed bonds or debentures.....	—	—	482	5,171	—	2,065	2,329	—	—	—	—	—	10,047
Less sinking funds.....	—	—	116	—	—	—	—	—	—	—	—	—	116
Net guaranteed bonds or debentures.....	—	—	366	5,171	—	2,065	2,329	—	—	—	—	—	9,931
Guaranteed bank loans.....	—	—	—	—	—	—	—	—	22	—	—	—	22
Totals, Indirect Debt (less Sinking Funds).....	—	—	366	5,171	—	2,065	2,329	—	22	—	—	—	9,953
Grand Totals.....	41,699	11,399	141,054	108,473	1,784,443	2,335,970	263,192	231,339	577,140	553,961	955	436	6,050,061

¹ Data for Quebec schools not available.² Includes \$47,862,000 debentures of the Montreal Transportation Commission guaranteed by the City of Montreal.

CHAPTER XXIV.—TRENDS IN ECONOMIC AGGREGATES*

CONSPECTUS

	PAGE		PAGE
SECTION 1. NATIONAL ACCOUNTS.....	1057	SECTION 6. GOVERNMENT ECONOMIC PLANNING AGENCIES.....	1091
SECTION 2. INDUSTRY PRODUCTION TRENDS..	1069	Subsection 1. The Economic Council of Canada.....	1091
SECTION 3. AGGREGATE PRODUCTIVITY TRENDS	1074	Subsection 2. The Atlantic Development Board.....	1104
SECTION 4. CANADIAN BALANCE OF INTERNATIONAL PAYMENTS.....	1079	Subsection 3. The Cape Breton Development Corporation.....	1108
SECTION 5. CANADA'S INTERNATIONAL INVESTMENT POSITION.....	1085	Subsection 4. Provincial Government Economic Planning Agencies.....	1108

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

In this Chapter various statistical statements and studies are presented in which broad areas of Canadian economic activity are covered in a comprehensive but summary form. These integrated aggregative economic accounts provide an interrelated framework for economic analysis and the observation of changes in the functioning of the Canadian economy and its structure and in economic and financial relationships with other countries.

Section 1.—National Accounts

The national accounts constitute a set of accounting summaries for the nation as a whole and portray economic activity in terms of transactions taking place between different sections of the economy. By combining and summarizing these operations into their various classes, information may be obtained on the functioning of the economy which is of particular interest to governments concerned with problems of full employment, taxation and prices, and to business men concerned with programs of investment and marketing.

This measurement of the nation's output is in terms of established market prices; hence it is necessary to keep in mind that the value of the nation's production may change because of price variations as well as through increase or decrease in volume of output.

Data are available showing volume changes in gross national expenditure in addition to the value figures. Gross national expenditure is shown in Table 4 in constant dollars (i.e., in terms of 1949 prices). Because the gross national expenditure equals the gross national product, these data also reflect volume changes in the production of goods and services as measured by the gross national product. In the other tables in which the data are expressed in current dollars, year-to-year changes must be considered in relation to price changes over the period.

* Sections 1 and 2 were prepared in the National Accounts, Production and Productivity Division, and Sections 3, 4 and 5 in the Balance of Payments and Financial Flows Division of the Dominion Bureau of Statistics. Section 6 was prepared by the authorities concerned.

The tables on pp. 1064-1069 cover the more important aspects of the national income analysis in annual terms. Definitions are as follows:—

National Income.—Net national income at factor cost measures the current earnings of Canadian factors of production (i.e., land, labour, capital) from productive activity. It includes wages and salaries, profits, interest, net rent and net income of farm and non-farm unincorporated business.

Gross National Product.—Gross national product, by totalling all costs arising in production, measures the market value of all final goods and services produced in the current period by Canadian factors of production. It is equal to national income plus net indirect taxes (indirect taxes less subsidies), plus capital consumption allowances and miscellaneous valuation adjustments.

Personal Income.—Personal income is the sum of current receipts of income whether or not these receipts represent earnings from production. It includes transfer payments from government (such as family allowances, unemployment insurance benefits and war service gratuities) in addition to wages and salaries, net income of unincorporated business, interest and dividends and net rental income of persons. It does not include undistributed profits of corporations and other elements of the national income not paid out to persons.

Gross National Expenditure.—Gross national expenditure measures the same aggregate as gross national product, namely, total production of final goods and services at market prices, by tracing the disposition of production through final sales to persons, to governments, to business on capital account (including changes in inventories) and to non-residents (exports). Imports of goods and services, including net payments of interest and dividends to non-residents, are deducted since the purpose is to measure only Canadian production.

Economic Activity in 1966

The Canadian economy in 1966 registered still another strong advance as continued high levels of demand in the domestic sector together with buoyant conditions abroad pushed the gross national product (GNP) to a level of \$57,700,000,000, a figure 10.8 p.c. above that for 1965. With the economy operating at high levels of employment, the resulting pressures on prices and costs were evident in a 4.6 p.c. advance in prices which reduced the 10.8-p.c. GNP gain to one of 5.9 p.c. in real terms. This compared with an increase of 9.9 p.c. in GNP in 1965 which was reduced to a volume gain of 6.8 p.c. after accounting for price advances of 2.9 p.c. Much of the 1966 gain occurred in the first quarter of the year when GNP increased $4\frac{1}{2}$ p.c. (partly reflecting the estimated value of the 1966 record grain crop of \$1,564,000,000 which was \$263,000,000 higher than the value of the 1965 crop), the strongest quarterly advance in the current expansion. Although increases in demand in that quarter were broadly based, certain special factors contributed both to a marked rise in exports and to a fractional gain in imports, thus substantially reducing the import balance. The quarter-to-quarter gains in GNP for the remainder of the year were more moderate—about 2 p.c. in the second quarter, less than 1 p.c. in the third quarter when strikes were a major factor, and 2 p.c. in the fourth quarter.

For 1966 as a whole, there were gains in a wide range of final expenditure categories. For the third successive year, business spending on plant and equipment was a dominant factor, investment in these categories increasing by nearly 18 p.c. compared with an advance of 20 p.c. in each of the two preceding years. At the provincial and municipal levels, government capital spending reinforced demands by the business sector so that total public and private outlays on plant and equipment rose by more than 18 p.c. For the second successive year, outlays on new housing showed only fractional gains. A sharp decline in mortgage loan approvals by conventional lenders contributed to the marked drop in the number of apartment units started; single family units started showed a slight decrease. Investment in business inventories was maintained at a rate only slightly lower than that of 1965.

Government expenditures on goods and services, including capital goods, increased more than 16 p.c. over 1935. Increased outlays on salaries and wages were an important part of the over-all change. In this area, retroactive wage payments together with increased salary rates to the Armed Forces and to the public service at the various levels of government, some of which involved adjustments over a period of years, accounted for most of the rise. Entirely as a result of Canada and Quebec pension plan contributions, the surplus, on a national accounts basis, for all levels of government combined increased somewhat in 1966. Exclusive of these contributions, the federal surplus narrowed by about \$440,000,000 and the provincial-municipal deficit widened by about \$240,000,000.

Consumer spending was about 9 p.c. higher in 1966; with personal disposable income increasing by $9\frac{1}{2}$ p.c., personal net savings rose. Prices of consumer goods increased by $3\frac{1}{2}$ p.c. as compared with a rise of 2 p.c. in 1965. Durable goods spending as a whole rose by 4 p.c. but there was no increase over 1965 in spending on automobiles in contrast to marked increases in each of the four preceding years. Outlays on non-durable goods and services increased by $9\frac{1}{2}$ p.c. and 9 p.c., respectively.

Demand for Canadian goods on world markets increased by 16 p.c. over 1965, in contrast to a growth of $6\frac{1}{2}$ p.c. in 1965 over 1964. Exports of wheat to countries such as the Soviet Union and Mainland China, together with a large gain in exports of automobile products mainly to the United States, accounted for about one half of a \$1,600,000,000. gain in merchandise exports. Imports rose 15 p.c. The Jan. 1, 1965 Canada-United States Automotive Agreement resulted in a swelling in imports of automotive products but the historically unfavourable trade balance on these products narrowed in 1966 by over \$100,000,000. Investment outlays caused a further significant increase in imports of machinery and equipment. Although the surplus on merchandise transactions increased by about \$100,000,000, this improvement was offset by a larger deficit on non-merchandise current transactions, resulting in a widening of the current account deficit by \$72,000,000, on a national accounts basis.

On the income side, the salient features of 1966 were an increase in labour income of nearly 13 p.c. that was one of the largest year-to-year gains since 1951, a 34-p.c. rise in farm income resulting from a record western grain crop, and a fractional decline in corporation profits following increases in this component over the past five successive years.

On the labour supply side, a sizable increase in immigration and increasing participation rates coupled with a decline in agricultural employment, caused the non-agricultural labour force to increase by 5 p.c. Non-agricultural employment rose by $5\frac{1}{2}$ p.c. and the unemployment rate for Canada was 3.6 p.c. compared with 3.9 p.c. in 1965. Work stoppages resulting from industrial disputes caused a loss of close to 5,000,000 man-working days, more than double that of 1965. In response to such factors as the tight employment market and wage demands, wage rates rose sharply and greatly outpaced productivity gains which, in 1966, were much reduced from the $2\frac{1}{2}$ -p.c. and 3-p.c. gains of recent years. The result was a notable rise in unit labour costs.

The aggregate price increase, as measured by the implicit price index of gross national expenditure, was 4.6 p.c. in 1966 compared with 2.9 p.c. in 1965. Prices of personal expenditure, government expenditure and exports all increased at significantly higher rates in 1966 than in the preceding four years. Price increases for imports, although higher than in 1964 and 1965, were lower than in 1962 and 1963 when the effects of devaluation were evident. In business gross fixed capital formation, the rate of increase was slightly lower than in 1964 and 1965, when sales taxes on production machinery and on building materials were increased.

Considering the components of personal expenditure, there was a strong increase in the price of food, most of it accounted for by meats and dairy products. In services, there was more of an increase in the price of rents than had been noted in recent years. Prices associated with household services and education showed increases above 10 p.c. but communication showed little price change. New car prices declined over 1 p.c. but

prices of furniture and jewellery went up about 4 p.c. The increase of 2 p.c. in the Ontario sales tax in the second quarter of the year had a significant effect on the rise in prices of durables and of non-food goods as a whole.

Components of Demand.—Total personal expenditure on goods and services reached \$34,800,000,000 in 1966, an increase of more than $8\frac{1}{2}$ p.c. over 1965. A gain of $9\frac{1}{2}$ p.c. in personal disposable income permitted not only this level of spending but also a sharp increase in the level of personal saving. Although all three major components of consumer expenditure shared in the rise, which was the largest percentage increase since 1952, the gain was somewhat unevenly distributed and of a different pattern than that of the two preceding years. Non-durables showed a $9\frac{1}{2}$ -p.c. gain compared with increases of $6\frac{1}{2}$ p.c. and $7\frac{1}{2}$ p.c. in 1964 and 1965, respectively. (In real terms, the increases were around 5 p.c. for each of the three years.) Durables showed a 4-p.c. rise in 1966, the lowest since 1961 and considerably below the increases of $10\frac{1}{2}$ p.c. and $11\frac{1}{2}$ p.c. in 1964 and 1965. The 9-p.c. increase in expenditure on services matched the gain of 1964 and was about 1 p.c. above that of 1965.

The large increase in outlays on non-durable goods was broadly based, although much of it represented price rises rather than gains in real terms. For example, food outlays were up by about $7\frac{1}{2}$ p.c. in value terms but only by 1 p.c. in real terms; clothing by 6 p.c. (value) and 2 p.c. (real); and tobacco by 6 p.c. (value) and $2\frac{1}{2}$ p.c. (real). Increases in outlays on alcoholic beverages and drugs and cosmetics, however, represented significant gains in both real and value terms. The relatively small increase in outlays on durable goods was attributable mainly to an unchanged level of purchases of new and used cars from the previous year, after increases of 12 p.c. to $14\frac{1}{2}$ p.c. in the three preceding years. The over-all rise in durables was attributable to increases of 8 p.c. in toys and sporting goods, 7 p.c. in furniture, $9\frac{1}{2}$ p.c. in home furnishings and 11 p.c. in radios and appliances. The 9-p.c. gain in services was also broadly based. Shelter, accounting for about 40 p.c. of the total, rose by $8\frac{1}{2}$ p.c. and each of total transportation services and medical expenditures by 8 p.c.

Capital expenditures in 1966 amounted to \$12,200,000,000, 14.7 p.c. higher than in the previous year. Non-residential construction and machinery and equipment outlays rose 19.6 p.c. and 16.0 p.c., respectively, but outlays on new housing advanced only 2.5 p.c. Investment in plant and equipment moved from a seasonally adjusted annual rate of \$9,900,000,000 in the first half of 1966 to \$10,200,000,000 in the second half. Capital expenditures for all major industrial divisions, apart from forestry and construction, were higher in 1966 than in 1965. In manufacturing, advances were recorded by pulp, primary metals, electrical products, non-metallic minerals, petroleum and coal products, transportation equipment, rubber, and food and beverage industries, and declines by the wood, textile, printing and publishing, and chemicals industries. Mining, electric power, gas and water utilities, and transportation industries made pronounced gains. Housing outlays were a significantly lower percentage and mining machinery a significantly higher percentage of business capital spending in 1966. Housing expenditures at \$2,200,000,000 were little changed from 1965; they rose 5.8 p.c. in the first half of 1966 over the latter half of 1965 but fell 9.1 p.c. between the first and second halves of 1966. Housing starts dropped from 166,600 to 134,500; completions rose from 153,000 to 162,200; and dwellings under construction were 119,900 at the beginning of the year and 88,600 at the end. Single-detached starts dropped only from 75,000 to 71,000 during the year but apartment starts were down from 78,000 to 52,000. Business capital spending plans for 1967, as published in *Private and Public Investment in Canada—Outlook 1967*, were unchanged in over-all level from 1966. Although manufacturers' capital budgets were markedly lower in such branches as pulp, primary metals, non-metallic minerals, metal fabricating and textiles, the construction budget for electric power, gas and water utilities showed a striking increase.

Investment in non-farm business inventories was \$832,000,000 in 1966 compared with \$905,000,000 in 1965. However, there were marked differences in the rates of accumulation in the four quarters of the year; there was virtually no change in the rate in the

first quarter, a substantial gain of close to \$1,400,000,000 in the second quarter partly as a result of a build-up of automobile stocks associated with a sharp drop in new car sales, a decline to \$600,000,000 in the third quarter partly as a result of strike effects and partly because of a drawing down of new car inventories, and an only fractional increase in the fourth quarter. For the year as a whole, investment in inventories at the manufacturing level accounted for about 60 p.c. of the total accumulation. The major part took place in the durable goods producing industries, about 40 p.c. of which was concentrated in transportation industries. In the non-durable goods producing industries the movement was mixed, leaving on balance a relatively small accumulation. Compared with 1965, the 1966 rate of increase was higher in non-durable goods industries and was concentrated mainly in the food and the rubber industries; among durables, although the rate of increase in transportation industries was significant, that in the primary metal, metal fabricating and machinery industries dropped substantially. For manufacturing as a whole, the average stock-to-shipments ratio for 1966 was higher than the average for 1965.

Moderate increases were recorded in the stocks of wholesale and retail traders in 1966. About 70 p.c. of the increase in the stocks of wholesale traders resulted from a general increase in the stocks of durable goods. Compared with 1965, the increases in the stocks of wholesalers were lower in durables and higher in non-durables. The average stock-to-sales ratio for the year was above the average of the current expansion. A considerable amount of accumulation was concentrated in the holdings of retail traders in 1966. There was a significant increase in the stocks of all non-durable goods, particularly of food, and there were modest increases in the stocks of durable goods. Compared with 1965, the durables were built up at a much reduced rate, tempered by a drawing down of stocks of motor vehicle dealers in the third quarter of 1966; the rate of accumulation in non-durables was virtually unchanged. The average stock-to-sales ratio for the year was above the average of the current expansion.

During 1966, the deficit in Canada's external account increased by \$72,000,000 on a national accounts basis. This resulted from a rise of \$106,000,000 in the surplus on merchandise trade—as increased export sales outpaced the climb in import demand—offset by a deterioration of \$178,000,000 in non-merchandise trade. Much of the latter may be ascribed to higher deficits in the interest and dividend account and to miscellaneous services (business services, government expenditures, etc.) account, and also to larger official contributions. Merchandise exports increased by \$1,581,000,000. Important export gains were made by food, feed, beverages and tobacco (mainly wheat), crude metals and non-metallic minerals, pulp and paper, fabricated metals, machinery and, notably, transportation equipment. Imports rose \$1,475,000,000, the increase being highlighted by imports of machinery required for investment purposes, other equipment and tools such as measuring and laboratory equipment, computers, other office machinery and equipment, and, notably, transportation equipment. Decreases in the trade surplus with Britain, other sterling area countries and other OECD countries in Europe were more than offset by a smaller trade deficit with the United States and by a substantial improvement in the surplus with other countries, resulting in a \$106,000,000 increase in the merchandise trade surplus between 1965 and 1966.

The Government Sector.—Total revenues of all levels of government combined (excluding inter-government transfers) reached \$18,800,000,000 in 1966, an increase of \$2,400,000,000 or almost 15 p.c. over 1965. Approximately 30 p.c. of this increase came from receipts resulting from the inception of the Canada and Quebec pension plans in January 1966. Federal receipts exclusive of the pension plan increased 8 p.c. compared with a 9½-p.c. increase in 1965, and provincial-municipal receipts increased over 13 p.c. in both years. Expenditures by the various levels of government were up more sharply than non-pension plan receipts—14 p.c. at the federal level compared with 6½ p.c. in 1965, and 15½ p.c. at the provincial-municipal level compared with 13 p.c. in 1965. The effect of these various flows was to increase the surplus for all levels of government combined by a marginal \$34,000,000; this increase was entirely attributable to the receipts from the

pension plans because, excluding these, the federal surplus was reduced by \$444,000,000 to one of \$124,000,000, and the combined provincial-municipal deficit was increased by \$236,000,000 to reach a total of \$558,000,000 for 1966.

Aside from the surge in receipts from the pension plans, all components of government revenues, with the exception of revenues from the corporate income tax, increased sharply in 1966, mainly as a result of generally buoyant economic conditions. In addition, higher general retail sales tax rates in Ontario and extended tax bases in Ontario and Quebec reinforced revenue gains from indirect taxes. Indirect taxes for all levels of government increased by some 10½ p.c. Revenue from direct taxes rose by \$548,000,000, almost all contributed by personal taxes. The share of the increase going to provincial governments was somewhat greater than that accruing to the Federal Government because of a further abatement to the provinces of three percentage points of basic income tax on Jan. 1, 1966. Expenditures on goods and services for all levels of government combined rose by a striking 16½ p.c. in 1966—19 p.c. at the federal level and 15 p.c. at the provincial-municipal level. At the federal level, 75 p.c. of the increase occurred in outlays on non-defence goods and services; defence expenditures rose by 10 p.c.

Components of Income.—Labour income in Canada was about 12½ p.c. higher in 1966 than in 1965, despite the occurrence of severe industrial disputes. About half of the increase was attributable to additional employment in the non-agricultural industries and the other half to increased average earnings, mostly from higher wages but in some cases from longer average weekly hours, particularly in construction, and more overtime. The increase in the number of employees came mainly from young persons leaving school and immigrants but also from a larger percentage of women participating in the labour force. Participation rates for men were virtually unchanged. Unemployment rates, on average, were slightly lower in 1966 than in 1965. The goods-producing industries accounted for more of the increase in payrolls than did the service industries—13 p.c. compared with 11 p.c.—although this trend was reversing toward the end of the year. The primary industries recorded a 7½-p.c. increase in labour income, somewhat less than the average; the largest increase involved mining where most of the rise was in average earnings, due to both higher wage rates and some shift toward the more highly paid sectors, such as iron and petroleum.

Manufacturing, up by 11½ p.c., continued the steady increase noted in 1965, absorbing almost its share of additional employment. The construction industry recorded increased salaries and wages of almost 25 p.c., resulting partly from a lessening of the seasonal decline associated with that industry and partly from greater emphasis on engineering projects where hourly earnings are significantly higher. The average weekly hours worked in the construction industry also increased. Over the year, this industry appears to have attracted more than the national average increase in numbers of employees. Average weekly earnings in construction increased by an even higher proportion. Service-producing industries, responsible for about 58 p.c. of wage and salary payments in Canada, had income increases almost as high as the goods-producing industries but with somewhat higher employment gains and less in average weekly earnings. The greatest gains were in the trade and service sections—11 p.c. and 14 p.c., respectively—which may have attracted more part-time employees. Proportionately lower payroll increases were evident in transportation and other public utilities—8 p.c.; these industries, being generally less cyclically sensitive, experienced about average increases in earnings. Finance, insurance and real estate increased 8½ p.c. Government payrolls increased by more than the average in 1966. Retroactive payments made in 1966 but pertaining to 1965 were partly responsible for the large increase of 15 p.c. in federal non-military payments but provincial governments also recorded a large increase of 13 p.c. In part, the rise in government payrolls was due to relatively low increases in earlier years. Supplementary labour income showed a substantial increase in 1966 of 23½ p.c., mainly a result of the Canada and Quebec pension plans.

Corporation profits (before taxes and before dividends paid to non-residents) were \$5,200,000,000 in 1966, little changed from 1965. A quarter-to-quarter comparison through 1965 and 1966 indicates a rising level of profits in the second and third quarters of 1965 with little change in the first two quarters of 1966; following a decline in the third quarter, profits in the fourth quarter almost regained levels attained in the latter part of 1965. Profits in the manufacturing group fell by about 2 p.c.; the petroleum and coal industry showed a gain of 25 p.c. and the rubber, wood, printing, electrical apparatus, chemical, and miscellaneous categories recorded relatively smaller gains, but the textile and paper industries declined 24 p.c. and 23 p.c., respectively, and the metal and non-metallic mineral industries both declined about 7½ p.c. Wholesale trade profits advanced nearly 11 p.c., service trade profits nearly 16 p.c., and transportation, storage and communication 9 p.c., but retail trade profits declined 5 p.c., mining 5 p.c., and finance, insurance and real estate nearly 3 p.c.

Rent, interest and miscellaneous investment income rose 10 p.c. over 1965 compared with an increase of 9 p.c. in 1965 over 1964. Government investment income for all levels combined rose by \$172,000,000 in 1966—\$45,000,000 at the federal level and \$127,000,000 at the provincial-municipal level. Subsidies to the railways in 1966 were higher than in 1965.

Accrued net income of farm operators was \$2,204,000,000 in 1966, 34 p.c. higher than in 1965. All components showed increases, the largest occurring in grain production; the value of the record 1966 grain crop at \$1,564,000,000 was 20 p.c. above the 1965 level and 13 p.c. above the previous record of \$1,381,000,000 in 1963. Cash income from the sale of livestock increased by about 15 p.c. and the increase in income from other farm products was mainly accounted for by dairy products, partly reflecting much higher federal and provincial dairy subsidies, and by rapeseed and soybean crops. Because the increase in expenses was less than the increase in cash income, net income advanced by more than cash income. During 1966, net income of non-farm unincorporated business increased to \$2,949,000,000, a figure 2½ p.c. higher than the 1965 total. The service industries showed small increases but these were partially offset by declines in manufacturing and retail trade.

Economic Activity in the First Nine Months of 1967

In the first nine months of 1967, gross national product advanced 6½ p.c. over the same period of the previous year, a considerably lower rate of increase than the nearly 11-p.c. gain for the full year 1966. Because prices rose by 4½ p.c., the same rate of advance as for 1966, the gain in real terms was 2 p.c., reduced sharply from the 6 p.c. of the previous year.

Among categories of demand, only personal expenditure matched its 1966 rate of increase; all others showed substantially reduced rates of advance. The rate of increase in government expenditure at both the federal and provincial-municipal levels was about one third lower than that of 1966; the over-all increase was 10½ p.c. as against 16½ p.c. Exports and imports also increased at lower rates, 13 p.c. and 9 p.c., respectively, substantially narrowing the current account deficit. Business gross fixed capital formation showed the most pronounced change, advancing only fractionally after a 14½-p.c. increase in 1966; among its components, residential construction rose at a slightly higher rate but non-residential construction slumped from an advance of 19½ p.c. to a decline of 3 p.c., and machinery and equipment from a 16-p.c. increase to an increase of 1½ p.c.

Labour income increased 10 p.c. as compared with the exceptionally high advance of 12½ p.c. in 1966. Gross corporation profits increased 1 p.c. compared with a 3-p.c. rise in 1966. Rent and interest income and net income of non-farm unincorporated business rose at higher rates than in 1966.

Significantly affecting several components of both income and demand were Expo 67 and other centennial events. Perhaps the most dramatic influence was in the tourist and travel account, which shifted from a small deficit in the first nine months of 1966 to a surplus of about \$400,000,000 in the same period of 1967.

1.—Gross National Product in Current and Constant (1949) Dollars, 1937-66

NOTE.—Comparable figures for 1927-36 are given in the 1965 Year Book, p. 1009.

Year	Millions of Current Dollars	Millions of Constant (1949) Dollars	Year	Millions of Current Dollars	Millions of Constant (1949) Dollars
1937.....	5,257	8,820	1952.....	23,995	20,027
1938.....	5,278	8,871	1953.....	25,020	20,794
1939.....	5,636	9,536	1954.....	24,871	20,186
1940.....	6,743	10,911	1955.....	27,132	21,920
1941.....	8,328	12,486	1956.....	30,585	23,811
1942.....	10,327	14,816	1957.....	31,909	24,117
1943.....	11,088	15,357	1958.....	32,894	24,397
1944.....	11,850	15,927	1959.....	34,915	25,242
1945.....	11,835	15,552	1960.....	36,287	25,849
1946.....	11,850	15,251	1961.....	37,471	26,515
1947.....	13,165	15,446	1962.....	40,575	28,287
1948.....	15,120	15,735	1963.....	43,424	29,740
1949.....	16,343	16,343	1964 ^r	47,393	31,650
1950.....	18,006	17,471	1965 ^r	52,098	33,814
1951.....	21,170	18,547	1966.....	57,738	35,822

2.—National Income and Gross National Product, by Component, 1962-66

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1122, and for later years in succeeding editions.

(Millions of dollars)

Item	1962	1963	1964 ^r	1965 ^r	1966
Wages, salaries and supplementary labour income.....	20,233	21,547	23,433	26,033	29,324
Military pay and allowances.....	586	598	583	587	621
Corporation profits before taxes ¹	3,235	3,574	4,066	4,419	4,390
Rent, interest and miscellaneous investment income.....	2,832	3,078	3,262	3,554	3,903
Accrued net income of farm operators from farm production ²	1,496	1,721	1,464	1,645	2,204
Net income of non-farm unincorporated business ³	2,401	2,551	2,720	2,877	2,949
Inventory valuation adjustment.....	-130	-200	-131	-325	-318
Net National Income at Factor Cost.....	30,653	32,869	35,397	38,790	43,073
Indirect taxes less subsidies.....	5,293	5,600	6,372	7,172	7,800
Capital consumption allowances and miscellaneous valuation adjustments.....	4,892	5,198	5,600	6,110	6,591
Residual error of estimate.....	-263	-243	24	26	274
Gross National Product at Market Prices.....	40,575	43,424	47,393	52,098	57,738

¹ Excludes dividends paid to non-residents.
net income of independent professional practitioners.² Includes changes in farm inventories.³ Includes

3.—Gross National Expenditure, 1962-66

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1124, and for later years in succeeding editions.

(Millions of dollars)

Item	1962	1963	1964 ^r	1965 ^r	1966
Personal expenditure on consumer goods and services.....	25,926	27,487	29,666	32,063	34,840
Government expenditure on goods and services.....	7,717	8,075	8,654	9,596	11,169
Current expenditure.....	6,962	6,273	6,813	7,382	8,486
Gross fixed capital formation.....	1,755	1,802	1,841	2,214	2,683
Business gross fixed capital formation.....	6,960	7,591	9,103	10,651	12,214
New residential construction.....	1,577	1,707	2,021	2,124	2,178
New non-residential construction.....	2,638	2,835	3,358	4,024	4,811
New machinery and equipment.....	2,745	3,049	3,724	4,503	5,225
Value of physical change in inventories.....	532	535	386	948	995
Non-farm business inventories.....	310	244	516	905	832
Farm inventories and grain in commercial channels.....	222	291	-130	43	163
Export of goods and services.....	8,259	9,111	10,578	11,265	13,073
Deduct: Imports of goods and services.....	-9,082	-9,618	-10,970	-12,400	-14,280
Residual error of estimate.....	263	243	-24	-25	-273
Gross National Expenditure at Market Prices...	40,575	43,424	47,393	52,098	57,738

4.—Gross National Expenditure in Constant (1949) Dollars, 1962-66

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1124, and for later years in succeeding editions.

(Millions of dollars)

Item	1962	1963	1964 ^r	1965 ^r	1966
Personal expenditure on consumer goods and services.....	19,364	20,235	21,506	22,800	23,947
Government expenditure on goods and services.....	4,561	4,588	4,763	5,072	5,524
Current expenditure.....	3,274	3,317	3,478	3,629	3,918
Gross fixed capital formation.....	1,299	1,279	1,295	1,457	1,627
Adjusting entry.....	-12	-8	-10	-14	-21
Business gross fixed capital formation.....	4,361	4,615	5,305	5,954	6,577
New residential construction.....	989	1,035	1,162	1,164	1,137
New non-residential construction.....	1,633	1,698	1,927	2,176	2,471
New machinery and equipment.....	1,738	1,882	2,215	2,610	2,965
Adjusting entry.....	1	—	1	4	4
Value of physical change in inventories.....	462	464	322	854	857
Non-farm business inventories.....	237	193	392	706	627
Farm inventories and grain in commercial channels.....	225	325	-158	77	193
Adjusting entry.....	-33	-54	88	71	32
Exports of goods and services.....	6,534	7,118	8,100	8,508	9,570
Deduct: Imports of goods and services.....	-6,992	-7,188	-8,102	-9,118	-10,296
Residual error of estimate.....	182	165	-16	-16	-168
Adjusting entry.....	-185	-257	-228	-240	-189
Gross National Expenditure in Constant (1949) Dollars.....	28,287	29,740	31,650	33,814	35,822
Index of gross national expenditure (1949=100).....	173.1	182.0	193.6	206.9	219.2

5.—Year-to-Year Percentage Change in Gross National Expenditure, 1962-66

Item	1962	1963	1964 ^r	1965 ^r	1966
	p.c.	p.c.	p.c.	p.c.	p.c.
Personal Expenditure on Consumer Goods and Services—					
Value.....	6.0	6.0	7.9	8.1	8.7
Volume.....	4.6	4.5	6.3	6.0	5.0
Price.....	1.3	1.4	1.5	2.0	3.5
Government Expenditure on Goods and Services—					
Value.....	6.6	4.6	7.2	10.9	16.4
Volume.....	3.8	0.5	3.8	6.5	8.9
Price.....	2.7	4.1	3.2	4.1	6.9
Current Expenditure—					
Value.....	4.6	5.2	8.6	8.4	15.0
Volume.....	1.5	1.4	4.9	4.3	8.0
Price.....	3.1	3.8	3.6	3.8	6.5
Gross Fixed Capital Formation—					
Value.....	14.2	2.7	2.2	20.3	21.2
Volume.....	10.6	-1.6	1.3	12.5	11.7
Price.....	3.3	4.3	0.9	6.9	8.5
Business Gross Fixed Capital Formation—					
Value.....	4.9	9.1	19.9	17.0	14.7
Volume.....	2.1	5.8	15.0	12.2	10.5
Price.....	2.8	3.1	4.3	4.3	3.8
New Residential Construction—					
Value.....	8.2	8.2	18.4	5.1	2.5
Volume.....	5.0	4.7	12.3	0.2	-2.3
Price.....	2.9	3.4	5.5	4.9	5.0
New Non-residential Construction—					
Value.....	-1.7	7.5	18.4	19.8	19.6
Volume.....	-3.8	4.0	13.5	12.9	13.6
Price.....	2.2	3.4	4.4	6.1	5.3
New Machinery and Equipment—					
Value.....	10.1	11.1	22.1	20.9	16.0
Volume.....	6.8	8.3	17.7	17.8	13.6
Price.....	3.0	2.6	3.8	2.6	2.1
Exports of Goods and Services—					
Value.....	8.2	10.3	16.1	6.5	16.0
Volume.....	5.0	9.0	13.8	5.0	12.5
Price.....	3.1	1.2	2.0	1.4	3.2
Imports of Goods and Services—					
Value.....	6.3	5.9	14.1	13.0	15.2
Volume.....	2.1	2.9	12.7	12.5	12.9
Price.....	4.1	2.9	1.2	0.4	2.0
Gross National Expenditure at Market Prices—					
Value.....	8.3	7.0	9.1	9.9	10.8
Volume.....	6.7	5.1	6.4	6.8	5.9
Price.....	1.5	1.8	2.6	2.9	4.6

6.—Personal Income, by Source and by Province, 1962-66

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1125, and for later years in succeeding editions.

(Millions of dollars)

Item	1962	1963	1964	1965	1966
Source					
Wages, salaries and supplementary labour income.....	20,233	21,547	23,433	26,033	29,324
Deduct: Employer and employee contributions to social insurance and government pension funds.....	-812	-852	-912	-959	-1,816
Military pay and allowances.....	586	598	583	587	621
Net income received by farm operators from farm production.....	1,490	1,582	1,353	1,689	2,048
Net income of non-farm unincorporated business.....	2,401	2,551	2,720	2,877	2,949
Interest, dividends and net rental income of persons.....	3,305	3,616	3,799	4,129	4,536
Transfer Payments (excluding interest)—					
From governments.....	3,725	3,848	4,133	4,502	5,006
Charitable contributions from corporations.....	44	44	44	44	44
Totals, Personal Income.....	30,972	32,934	35,153	38,902	42,712

6.—Personal Income, by Source and by Province, 1962-66—concluded

Item	1962	1963	1964	1965	1966
Province					
Newfoundland.....	449	484	523	584	650
Prince Edward Island.....	111	118	132	148	150
Nova Scotia.....	934	981	1,041	1,130	1,197
New Brunswick.....	674	708	777	857	925
Quebec.....	7,803	8,254	8,980	9,926	10,830
Ontario.....	12,252	13,099	14,057	15,450	16,921
Manitoba.....	1,578	1,599	1,725	1,846	1,968
Saskatchewan.....	1,576	1,742	1,587	1,870	2,135
Alberta.....	2,333	2,455	2,571	2,867	3,243
British Columbia.....	3,139	3,366	3,628	4,080	4,539
Yukon and Northwest Territories.....	50	53	57	60	64
Foreign countries ¹	73	75	75	84	90

¹ Income of Canadians temporarily abroad including pay and allowances of Canadian Armed Forces abroad.

7.—Disposition of Personal Income, 1962-66

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1125, and for later years in succeeding editions.

(Millions of dollars)

Item	1962	1963	1964	1965	1966
Personal Direct Taxes—					
Income taxes.....	2,316	2,487	2,957	3,355	3,854
Succession duties and estate taxes.....	165	171	179	209	228
Miscellaneous taxes.....	248	258	292	348	352
Personal expenditure on consumer goods and services.....	25,926	27,487	29,666	32,063	34,840
Personal net saving.....	2,317	2,531	2,059	2,927	3,438
Totals, Personal Income.....	30,972	32,934	35,153	38,902	42,712

8.—Personal Expenditure on Consumer Goods and Services, 1962-66

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1126 and for later years in succeeding editions.

(Millions of dollars)

Item	1962	1963	1964	1965	1966
Food.....	6,123	6,414	6,724	7,114	7,620
Tobacco and alcoholic beverages.....	1,782	1,840	1,911	2,079	2,225
Clothing and personal furnishings.....	2,526	2,643	2,803	2,972	3,141
Shelter.....	3,996	4,323	4,595	4,907	5,323
Household operation.....	3,202	3,352	3,576	3,836	4,170
Transportation.....	3,160	3,430	3,730	4,120	4,262
Personal and medical care and death expenses.....	2,204	2,396	2,613	2,841	3,078
Miscellaneous.....	2,933	3,089	3,714	4,194	5,021
Totals.....	25,926	27,487	29,666	32,063	34,840
Durable goods.....	2,960	3,246	3,592	4,001	4,169
Non-durable goods.....	12,965	13,518	14,389	15,434	16,913
Services.....	10,001	10,723	11,685	12,628	13,758

9.—Federal, Provincial and Municipal Government Revenue and Expenditure, 1962-66

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1126, and for later years in succeeding editions.

(Millions of dollars)

Item	1962	1963	1964	1965	1966
Revenue					
Direct Taxes: Persons—					
Income taxes.....	2,316	2,487	2,957	3,355	3,854
Succession duties and estate taxes.....	165	171	179	209	228
Miscellaneous taxes.....	248	258	292	348	352
Direct taxes: corporations.....	1,710	1,827	1,996	2,164	2,190
Withholding taxes.....	125	127	140	168	203
Indirect taxes.....	5,585	5,911	6,695	7,482	8,277
Investment Income—					
Interest.....	536	605	648	728	873
Profits of government business enterprises.....	715	790	878	960	987
Employer and employee contributions to social insurance and government pension funds.....	812	852	912	950	1,816
Totals, Revenue.....	12,212	13,028	14,697	16,373	18,780
Expenditure					
Purchases of goods and services.....	7,717	8,075	8,654	9,596	11,169
Transfer Payments—					
Interest.....	1,305	1,423	1,526	1,635	1,789
Other.....	3,725	3,848	4,133	4,502	5,006
Capital assistance.....	27	61	82	84	59
Subsidies.....	292	311	323	310	477
Surplus or deficit (on transactions relating to the national accounts).....	-854	-690	-21	246	280
Totals, Expenditure.....	12,212	13,028	14,697	16,373	18,780

10.—Analysis of Corporation Profits, 1962-66

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1127, and for later years in succeeding editions.

(Millions of dollars)

Item	1962	1963	1964*	1965*	1966
Corporation profits before taxes.....	3,235	3,574	4,066	4,419	4,390
Dividends paid to non-residents.....	584	614	753	780	797
Corporation profits including dividends paid to non-residents	3,819	4,188	4,819	5,199	5,187
Deduct: Corporation income tax liabilities.....	-1,710	-1,827	-1,996	-2,164	-2,190
Excess of tax liabilities over collections.....	57	52	-101	-103	-112
Tax collections.....	1,663	1,775	2,097	2,267	2,302
Corporation profits after taxes.....	2,109	2,361	2,823	3,035	2,997
Deduct: Dividends paid to non-residents.....	-584	-614	-753	-780	-797
Corporation profits retained in Canada.....	1,525	1,747	2,070	2,255	2,200
Deduct: Dividends paid to Canadian persons.....	-544	-637	-677	-796	-907
Deduct: Charitable contributions from corporations.....	-44	-44	-44	-44	-44
Undistributed Corporation Profits.....	937	1,066	1,349	1,415	1,249

11.—Corporation Profits before Taxes (including Dividends Paid to Non-residents), by Industry, 1962-66

(Millions of dollars)

Industry	1962	1963	1964	1965	1966
Agriculture, forestry, fishing and trapping.....	13	18	19	18	17
Mining, quarrying and oil wells.....	406	458	604	602	570
Manufacturing.....	1,816	2,045	2,223	2,371	2,313
Construction.....	63	55	60	78	74
Transportation.....	125	205	284	306	339
Storage.....	12	15	16	16	19
Communication.....	157	164	190	214	226
Electric power, gas and water utilities.....	96	75	74	92	94
Wholesale trade.....	262	292	345	378	419
Retail trade.....	233	257	272	312	297
Finance, insurance and real estate.....	543	499	607	660	643
Service.....	93	105	125	152	176
Totals.....	3,819	4,188	4,819	5,199	5,187

Section 2.—Industry Production Trends

Indexes of Real Domestic Product

The Dominion Bureau of Statistics in 1963 made available a new set of production data pertaining to the entire spectrum of Canadian industries. These data, in the form of volume of production indexes, are measures of value added for each industry expressed in the dollars of a base year. Technically, they are termed "indexes of real domestic product (GDP) at factor cost originating by industry".* The value added, or GDP, volume indexes can be regarded as an extension of the index of industrial production† to encompass the remainder of the economy. Concepts and basic methods used to construct both indexes are the same. Thus, industry production index coverage is extended from mining, manufacturing and electric power and gas utilities, for which volume indexes have been published since the 1920s, to include all other major industrial divisions. However, only the index of industrial production is published on a monthly basis; for the remaining industries only quarterly and annual indexes are currently being published. The GDP indexes can also be regarded as an elaboration of the supply side of the national income accounts.*

In measuring the output of a single product such as steel, it is normal to think in terms of tons of steel when the question of quantity arises. When measuring the combined production of steel and natural gas, there is an obvious need for a common denominator and it is appropriate to use the average unit prices of a certain time period (chosen as the base) to value the quantities produced before adding them together. The resultant quantity, volume or real output measure can be subsequently left in its constant or base period dollar form or it can be expressed in index number form. The latter is accomplished by dividing the constant dollar aggregate of the current period by the dollar aggregate for the base period and multiplying by 100. In constructing a quantity index for a combination of industries where the output of one industry becomes the input of another, the portion double-counted must be eliminated. This is accomplished by revaluing both intermediate input (materials, fuel, etc.) and total output in terms of the dollars of a common base year and subtracting the constant dollar value of the former from the latter to yield a constant dollar value added aggregate.* This aggregate is the quantity of volume measure represented by the indexes presented herein.

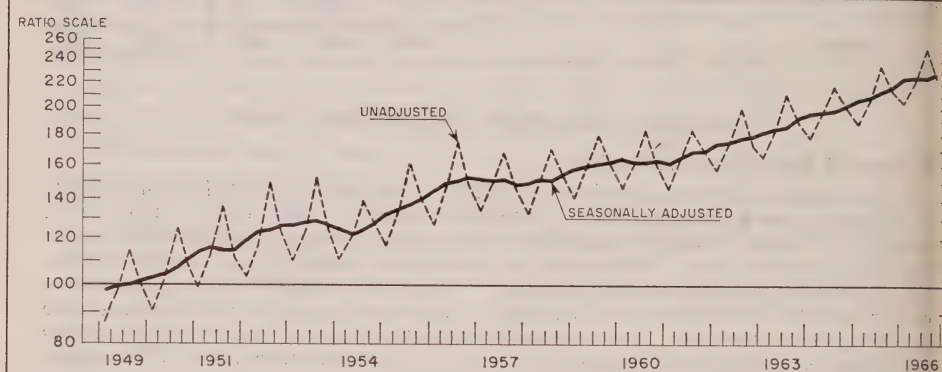
The annual indexes are well suited for studies of production trends, growth rates and inter-industry comparisons, but the quarterly indexes provide a much better tool for the

* *Indexes of Real Domestic Product by Industry of Origin, 1935-61* (Catalogue No. 61-505). This paper provides a detailed explanation of concepts, uses and limitations, data sources, methodology, etc., and covers a much wider range of industries than provided in this Section. Current quarterly data are published in DBS monthly *Index of Industrial Production* (Catalogue No. 61-005).

† See *Revised Index of Industrial Production, 1935-57* (Catalogue No. 61-502) and the current monthly publication *Index of Industrial Production* (Catalogue No. 61-005), together with its 1966 Annual Supplement which contains historical revisions to the index of industrial production and its components for the 1949-65 period.

study of the cyclical behaviour of industries, short-term changes in production and, in fact, for most types of current analysis. Statistics computed for less than annual intervals, however, are frequently subject to strong seasonal influences, and variations in the number of working days during a quarter may cause differences in the levels of output between two quarters which otherwise would not exist. Accordingly, the quarterly real output indexes have been adjusted for both seasonal and calendar variation. The effects of the seasonal adjustment are shown on the quarterly chart for the period 1949-66.

REAL DOMESTIC PRODUCT AT FACTOR COST
BY QUARTERS, 1949-66
(QUANTITY INDEXES, 1949=100)



Factors Underlying Industrial Output Trends, 1946-66.—The early postwar period was marked by several major expansions. The first was based on satisfying the backlog of war-deferred investment and consumer demand and on supplying the needs of the war-devastated countries, especially for various materials. This was followed by some slowing down in production but the requirements of defence-supporting industries after the outbreak of the Korean hostilities and stockpiling requirements at home and abroad introduced a second expansionary period. The third was the investment boom of the mid-1950s during which output reached a new high level. These strong demand influences combined to make most of this period one of fairly rapid and sustained growth. During the late 1950s the rate of increase diminished, as external sources of supply for many commodities multiplied and as competition intensified. At the same time, there was an absence of strong stimulants to domestic demand, such as the deferred demand and the population growth of the preceding period. During the 1960s, however, the first waves of the postwar generation exercised a growing influence on the demand for goods and services and this proved to be one of the major stimuli to the current expansion which began early in 1961 and continued into 1966. Other notable features of the expansion were: the relatively slow growth of imports compared with previous expansion periods, particularly after the stabilization of the Canadian dollar and other government measures undertaken in mid-1962 (although some acceleration took place in imports of machinery and equipment during 1964 and 1965 in response to the increased investment in construction and plant and equipment); the increase in exports, particularly during the latter part of 1963 and early 1964 when large amounts of wheat were sold abroad; the above-average output of the mining and agriculture industries since 1962; and the substantial gains in the production of the iron and steel and motor vehicle and parts industries throughout most of the period.

Along with the increases in total final demand, there were shifts in the composition of demand, which affected the output of the various industries. Imports retained roughly

the same relative share of the gross national product but the share of exports declined from 27.1 p.c. in 1946 to 22.3 p.c. in 1966, an indication of the growing importance of the domestic market as an outlet for the products of Canadian industry. Government expenditure and business gross fixed capital formation made considerable relative gains but personal expenditure on goods and services as a percentage of total expenditure declined from 67.8 p.c. in 1946 to 60.3 p.c. in 1966.

Even more remarkable than some of the demand-induced changes were the striking changes brought about by the technological discoveries and innovations that transformed whole production processes and opened up previously unknown areas in the fields of manufacturing, transportation and communication. Newer industries, such as air transport, assumed major importance in a comparatively short time; entirely new industries, such as gas pipelines, appeared; and a profusion of new products were created, such as the petrochemicals of the chemicals industry and the television and other electronic products of the telecommunication equipment industry. As was to be expected, the industries in a position to benefit from such innovations were among the most rapidly expanding in the economy, although the impact of the expansion spread through the entire economic system. The changes in production and demand also influenced the level of employment in the various industries; there was a considerable shift in employment during the postwar period from the goods-producing to the service-producing industries and most of the loss in the former took place in agriculture.

**12.—Quantity Indexes of Real Domestic Product at Factor Cost, by Industry of Origin,
1951-66**
(1949=100)

Industry	1951	1952	1953	1954	1955	1956	1957	1958
Agriculture.....	120.9	148.8	136.3	104.3	132.1	141.7	117.5	125.1
Forestry.....	141.5	129.7	123.7	128.4	135.7	143.4	130.5	115.6
Fishing and trapping.....	111.4	101.6	103.5	112.3	105.6	111.6	105.5	117.8
Mining.....	123.5	131.6	143.3	158.9	187.8	218.3	239.3	243.3
Manufacturing.....	115.9	120.2	128.9	126.0	138.3	151.2	150.9	148.0
Construction.....	110.6	123.2	130.1	129.8	139.8	165.7	174.7	178.4
Electric power and gas utilities.....	129.4	140.7	147.8	161.6	183.0	204.4	219.9	241.3
Transportation, storage, communication.....	113.1	119.4	121.0	117.9	133.6	149.2	149.6	146.7
Trade.....	108.1	114.6	121.3	120.6	132.0	144.2	144.6	147.4
Finance, insurance and real estate.....	113.4	118.4	123.2	129.9	136.6	141.5	150.9	156.1
Public administration and defence.....	119.0	136.2	144.2	151.3	156.3	158.8	163.7	171.3
Community, recreation, business and personal service.....	107.9	112.1	115.7	117.4	119.9	127.0	130.6	135.1
Real Domestic Product.....	114.8	123.2	127.4	124.7	137.4	149.6	149.6	151.5
	1959	1960	1961	1962	1963	1964	1965	1966
Agriculture.....	125.1	127.9	116.0	134.7	147.5	140.2	149.9	167.5
Forestry.....	130.6	141.8	130.8	140.5	149.4	159.3	160.4	171.8
Fishing and trapping.....	105.8	104.0	115.7	130.4	125.2	123.6	120.4	133.6
Mining.....	275.4	275.6	283.0	304.7	318.3	346.4	365.6	393.6
Manufacturing.....	159.0	161.2	166.9	181.2	193.9	211.9	230.1	247.2
Construction.....	170.7	163.0	168.4	170.9	173.6	190.4	211.2	226.0
Electric power and gas utilities.....	273.9	298.5	316.3	338.0	367.5	405.7	448.3	504.2
Transportation, storage and communication.....	160.5	163.9	172.0	179.2	192.0	209.3	224.8	242.5
Trade.....	156.4	156.6	158.2	166.8	173.2	183.8	197.6	206.3
Finance, insurance and real estate.....	163.5	169.5	175.5	182.9	194.5	203.0	211.9	223.2
Public administration and defence.....	175.0	177.8	183.9	187.9	188.1	189.8	190.7	195.9
Community, recreation, business and personal service.....	141.3	147.4	152.2	158.2	165.0	171.0	178.8	190.8
Real Domestic Product.....	159.8	162.5	165.7	176.5	186.4	197.9	211.6	226.5

Industrial Expansion, 1946-66.—Although all the major industry groups expanded during 1946-66, development was not uniform throughout the period. Three important types of factors affecting the expansionary paths of industries were in evidence at some point during the period. The first may be described as some special factor at work in a particular industry, the effects of which would be most noticeable in that industry—for example, the demand for uranium which had an important influence on the mining industry during the latter half of the 1950s, the opening up of new mineral resources such as the iron ore mines in Quebec-Labrador, and certain technological innovations such as the development of synthetic materials or television. The second type of factor is much more general in its effects and in its causes. Such factors as increased demand for consumer goods resulting from a rising standard of living and a growing population, shifts in world trading patterns or shortages causing increased demand for export goods, the surge of investment activity associated with replacement cycles, as well as attempts to broaden the base of economic activity through investment in research, social overhead capital, education, improved management and marketing techniques, or a more efficient production process (or a confluence of all these factors) appear to lie at the root of such postwar expansions as the investment boom of the mid-1950s or the rapid expansion in production since 1961. The third type of factor would be some unique and far-reaching event, of which the Korean War might serve as a conspicuous example.

All three factors, jointly or in turn, have reacted on the various industries to result in the upswings in aggregate production. The percentage growth of each of the main industrial groups in the 1946-66 period was as follows:—

<u>Industry</u>	<u>p.c.</u>	<u>Industry</u>	<u>p.c.</u>
Agriculture.....	1.7	Trade.....	4.1
Forestry.....	1.8	Finance, insurance and real estate.....	4.9
Fishing and trapping.....	1.8	Public administration and defence.....	3.8
Mining.....	8.9	Community, recreation, business and personal service....	3.7
Manufacturing.....	4.9		
Construction.....	5.1	REAL DOMESTIC PRODUCT.....	4.5
Electric power and gas utilities..	9.6		
Transportation, storage and communication.....	4.8		

Foremost in growth was the electric power and gas utilities industry, followed by the mining and construction industries. All three were strongly affected by technological advances, new discoveries and a fairly well sustained demand for their products. The demand in mining frequently came from abroad, resulting in relatively high export sales and providing incentive for the opening up and developing of new mineral resource areas. Some slackening in construction activity was evident following the unusually high levels reached during the mid-1950s but since 1963 the swing has again been upward, although there was some flattening in the latter part of 1966.

Although most of the other industry divisions (except agriculture, forestry and fishing and trapping) expanded at roughly the same average rate of between about 4 p.c. and 5 p.c., the manufacturing, trade, and transportation, storage and communication industry divisions, which together account for about one half of the total output, also showed strikingly similar cyclical patterns. Within manufacturing it was the durables component that expanded particularly rapidly during the cyclical upturns and that benefited from the need for machinery and equipment in the periods of heavy investment and from increased consumer demand for such products as motor vehicles and electrical appliances during the current expansion. Non-durables maintained a fairly steady rate of expansion for most of the postwar period, largely in response to increased population and demand for industrial materials. A similar pattern was observable in trade, with retail trade exhibiting a relatively smooth expansionary trend.

The community, recreation, business and personal service industry division was relatively insensitive both to cyclical and irregular influences but, along with some other

steadily expanding industries such as finance, insurance and real estate, non-durables and retail trade, it helped to sustain aggregate production and growth during periods of contraction and expansion. Although this division as a whole showed a less-than-average rate of growth, some of its components, such as business services, education and hospitals and restaurants, hotels and motels, were among the most rapidly expanding in the economy.

The rates of growth in the forestry, agriculture, and fishing and trapping divisions were also below average and were subject to pronounced irregular fluctuations in output—forestry because of the nature of its production processes and also, to some extent, because of its sensitivity to changes in world demand and price; agriculture because of marked year-to-year differences in output more often caused by weather conditions and similar factors than by changes in prices and demand conditions; and fisheries because of its dependence on the vagaries of nature.

Production of Commodity-Producing Industries

The data contained in the tables under this heading are published in the DBS report *Survey of Production*.^{*} The scope of the survey of production is limited to industries chiefly engaged in the production of commodities and it measures production in current dollars. This is in contrast to the real domestic product series (p. 1069) which encompasses all industries and measures production in terms of the dollars of a base year.

Tables 13 and 14 give "census value added" production data, classified by province and industry, respectively. Census value added is derived by deducting from the gross value (exclusive of excise and other sales taxes) of shipments (adjusted for change in inventory of finished goods and goods-in-process) or revenue, the cost of materials. The figures include interim classification and valuation changes in mining, manufacturing and forestry brought about by the adoption of the 1960 standard industrial classification of establishments. However, the three industry aggregates continue to consist of census value added accruing from their primary activity only.^{*} Standard industrial classification changes have not yet been implemented for other industries.

^{*} DBS Catalogue No. 61-202. See Appendix II of the 1964-65 issue for census value added in manufacturing and forestry on an all-activities basis.

13.—Census Value Added for Commodity-Producing Industries, by Province, 1962-65

Province or Territory	1962		1963		1964		1965	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Newfoundland ¹	284,507	1.4	298,860	1.4	339,807	1.4	379,102	1.4
Prince Edward Island.....	50,498	0.2	53,317	0.2	58,673	0.2	67,611	0.2
Nova Scotia.....	425,039	2.0	442,294	2.0	475,979	2.0	524,409	2.0
New Brunswick.....	326,758	1.5	339,177	1.5	412,865	1.7	475,806	1.8
Quebec.....	5,346,426	25.3	5,480,286	24.5	6,141,519	25.5	6,715,983	25.0
Ontario.....	8,603,645	40.7	9,205,156	41.1	10,037,233	41.6	11,147,734	41.5
Manitoba.....	884,814	4.2	880,930	3.9	969,575	4.0	1,028,471	3.8
Saskatchewan.....	1,256,250	5.9	1,555,101	6.9	1,227,541	5.1	1,488,140	5.5
Alberta.....	1,828,899	8.7	2,012,836	9.0	2,088,482	8.7	2,324,698	8.7
British Columbia ²	2,107,638	10.0	2,105,551	9.4	2,333,132	9.7	2,650,101	9.9
Yukon and Northwest Territories ²	27,999	0.1	28,059	0.1	30,668	0.1	66,481	0.2
Canada.....	21,142,472	100.2	22,401,566	100.0	24,115,476	100.0	26,863,536	100.0

¹ Excludes agriculture, with British Columbia.

² Construction figures for the Yukon and Northwest Territories are included

14.—Census Value Added for Commodity-Producing Industries, by Province and Industry, 1965

Industry	Newfoundland		Prince Edward Island		Nova Scotia		New Brunswick	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Agriculture.....			23,482	34.8	30,259	5.8	37,339	7.9
Forestry.....	21,260	5.6	—	—	8,101	1.5	27,777	5.8
Fisheries.....	24,111	6.4	7,083	10.5	49,372	9.4	10,672	2.2
Trapping.....	87	—	1	—	170	—	254	0.1
Mining.....	122,767	32.4	296	0.4	47,077	9.0	47,162	9.9
Electric power.....	21,364	5.6	3,123	4.6	30,740	5.9	29,500	6.2
Manufactures.....	82,407	21.7	12,724	18.8	222,662	42.5	196,237	41.2
Construction.....	107,106	28.3	20,902	30.9	136,028	25.9	126,864	26.7
Totals.....	379,102 ¹	100.0 ¹	67,611	100.0	521,409	100.0	475,806	100.0
Quebec		Ontario		Manitoba		Saskatchewan		
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Agriculture.....	245,575	3.7	623,763	5.6	274,080	26.7	699,485	47.0
Forestry.....	146,792	2.2	97,299	0.9	3,490	0.3	1,184	0.1
Fisheries.....	7,127	0.1	6,402	0.1	4,370	0.4	1,734	0.1
Trapping.....	2,114	—	2,882	—	1,675	0.2	919	—
Mining.....	401,862	6.0	547,013	4.9	110,040	10.7	291,279	19.6
Electric power.....	302,119	4.5	370,965	3.3	49,827	4.8	48,691	3.3
Manufactures.....	4,305,379	64.1	7,881,825	70.7	364,275	35.4	138,692	9.3
Construction.....	1,305,015	19.4	1,617,584	14.5	220,714	21.5	306,156	20.6
Totals.....	6,715,983	100.0	11,147,734	100.0	1,028,471	100.0	1,488,140	100.0
Alberta		British Columbia		Yukon and Northwest Territories		Canada		
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Agriculture.....	493,929	21.2	107,205	4.1	—	—	2,535,117	9.4
Forestry.....	6,782	0.3	289,897	10.9	51	0.1	602,633	2.2
Fisheries.....	677	—	47,488	1.8	994	1.5	160,030	0.6
Trapping.....	1,887	0.1	778	—	952	1.4	11,719	—
Mining.....	692,569	29.8	172,387	6.5	59,452	89.4	2,491,903	9.3
Electric power.....	69,389	3.0	106,972	4.0	3,681	5.6	1,036,371	3.9
Manufactures.....	475,343	20.5	1,246,867	47.1	1,351	2.0	14,927,764	55.6
Construction.....	584,123	25.1	678,507 ²	25.6 ²	3	3	5,102,999	19.0
Totals.....	2,324,698	100.0	2,650,101	100.0	66,481	100.0	26,868,536	100.0

¹ Excludes agriculture, Columbia.

² Includes the Yukon and Northwest Territories.

³ Included with British

Section 3.—Aggregate Productivity Trends

Increasing interest in questions of economic growth, cost-structure and international competitiveness, and in the relationships between output, employment, earnings and prices has focused attention on productivity as a framework within which such problems can usefully be discussed. Recognizing this interest, the Dominion Bureau of Statistics now publishes annual indexes of output per person employed and per man-hour in Canada covering the commercial industries as a whole, with separate detail for agriculture and the commercial non-agricultural industries, manufacturing and the residual commercial non-manufacturing industries. Similar indexes are also published for the total and non-agricultural goods-producing industries, and the commercial service-producing industries of the same aggregate.*

* See DBS Reference Paper *Indexes of Output per Person Employed and per Man-Hour in Canada, Commercial Non-agricultural Industries, 1947-63* (Catalogue No. 14-501) and *Aggregate Productivity Trends, 1946-66* (Catalogue No. 14-201).

Although these measures relate output to a single input only, namely labour time, they do not measure the exclusive contribution of labour to output. Changes in indexes of output per unit of labour input reflect the combined influence of a number of separate but interrelated factors such as the amount and quality of capital equipment, the extent of utilization of available capacity, managerial efficiency and the impact of technological progress, as well as the skill and effort of the work force.

Sources of Data.—The output components of the various indexes of output per unit of labour input referred to here are the historical indexes of "real domestic product (GDP) at factor cost by industry of origin", described in Section 2, p. 1069. These indexes, which were developed within the conceptual framework of the national accounts and which measure in constant dollar terms the unduplicated contribution of each component industry to total output, are considered basically suitable for productivity measurement when matched with the corresponding input measures.

The major sources for the employment and man-hour indexes were the monthly labour force and employment surveys, and these were supplemented by data from such sources as the annual censuses of manufacturing and mining and the decennial census of population. Since the data from these diverse sources varied considerably in their coverage, concepts and methods of compilation, care had to be exercised in their selection, adaptation and combination into aggregate measures of labour input which would be conceptually and statistically consistent, both internally and in relation to the output data. Labour force survey data were used for the paid worker estimates of agriculture and of fishing and trapping, while those for manufacturing and mining were based on adjusted annual census data. Estimates for most of the remaining industry divisions were derived from adjusted employment survey data. Estimates of other than paid workers (own-account workers, employers and unpaid family workers) were derived mainly from the labour force survey. The estimates of average hours worked, which were needed for the indexes of output per man-hour, were also based on labour force survey data, except in the case of manufacturing, where estimates of man-hours paid from the census of manufactures were adjusted to the man-hours worked concept.

Growth Rates.—Output per person employed in the commercial non-agricultural industries grew at an average annual rate of 2.5 p.c. between 1946 and 1966. Because of the decline in average hours worked per person, this was a lower rate of growth than that of output per man-hour which, during the same period, increased by 3.2 p.c. per annum. Corresponding figures for manufacturing were 3.4 p.c. and 3.8 p.c. and those for the residual non-manufacturing industries of the commercial non-agricultural sector were 2.1 p.c. and 2.9 p.c., respectively.

In agriculture, the average annual rates of growth of output per person employed and per man-hour between 1946 and 1966 were 5.6 p.c. and 5.8 p.c., respectively. However, in view of the difficulties of measuring the number and especially the man-hours of persons employed in agriculture, data presented for this industry division should be regarded as approximate. In the commercial industries as a whole, output per person employed increased between 1946 and 1966 at an average annual rate of 3.3 p.c., and output per man-hour increased by 4.1 p.c. per annum. Corresponding figures for the total goods-producing industries were 4.8 p.c. and 5.4 p.c., respectively, per annum; for the non-agricultural goods-producing industries, 3.8 p.c. and 4.2 p.c.; and for the commercial service-producing industries, 1.1 p.c. and 1.8 p.c.

Inter-industry Shift Effects.—In addition to measuring the changes in productivity within the component industries, the aggregate productivity indexes measure the effect of shifts in employment and production between industries having different levels of produc-

tivity. One of the most significant such shifts within the commercial industries of Canada during the postwar years was from agriculture to the non-agricultural industries, where a higher level of output per unit of labour input prevails. The effect of this shift can be measured in various ways and a number of alternative calculations have been carried out for the 1946-65 annual publication,* all of which confirm, to a greater or lesser extent, that the decline in the relative importance of agriculture made a positive contribution to the total increase in output per person employed in the commercial industries during the postwar period.

* DBS Catalogue No. 14-201.

15.—Indexes of Output per Person Employed and per Man-Hour, 1946-66

(1949=100)

Year	Output	Persons Employed	Man-Hours	Output per Person Employed	Output per Man-Hour
COMMERCIAL INDUSTRIES					
1946.....	88.1	92.4	95.3	95.3	92.4
1947.....	94.0	96.8	97.4	97.1	96.5
1948.....	97.4	98.6	99.2	98.8	98.2
1949.....	100.0	100.0	100.0	100.0	100.0
1950.....	106.7	100.0	97.7	106.6	109.2
1951.....	114.9	102.5	99.5	112.1	115.5
1952.....	123.0	103.5	99.7	118.8	123.3
1953.....	127.0	104.0	100.0	122.1	127.0
1954.....	123.4	103.3	98.9	119.5	124.8
1955.....	136.8	104.7	99.5	130.7	137.6
1956.....	149.8	108.9	103.5	137.5	144.7
1957.....	149.3	110.8	103.4	134.7	144.5
1958.....	150.8	107.7	99.3	140.0	151.8
1959.....	159.3	109.5	101.0	145.5	157.8
1960.....	161.7	109.0	99.8	148.3	162.0
1961.....	164.4	109.4	98.6	160.3	166.8
1962.....	175.6	111.7	100.8	157.2	174.1
1963.....	186.1	113.8	101.9	163.5	182.5
1964.....	198.2	117.9	105.3	168.1	188.3
1965.....	212.7	122.0	107.5	174.3	197.9
1966.....	227.9	126.2	110.1	180.7	207.0
Annual trend rate of change.....p.c.	+4.5	+1.2	+0.4	+3.3	+4.1
GOODS-PRODUCING INDUSTRIES					
1946.....	88.2	95.9	99.6	92.0	88.6
1947.....	93.4	98.5	99.3	94.8	94.1
1948.....	98.3	99.2	100.0	99.0	98.2
1949.....	100.0	100.0	100.0	100.0	100.0
1950.....	107.7	99.2	97.4	108.6	110.6
1951.....	118.2	101.0	98.6	117.0	119.9
1952.....	127.9	100.3	97.5	127.6	131.2
1953.....	131.6	99.7	97.5	132.0	135.0
1954.....	125.1	97.8	95.3	128.0	131.3
1955.....	141.2	98.0	94.7	144.1	149.2
1956.....	156.0	100.6	96.7	155.1	161.3
1957.....	153.1	100.2	95.0	152.8	161.1
1958.....	153.9	94.9	89.4	162.2	172.1
1959.....	162.2	95.6	90.0	169.7	180.3
1960.....	164.2	93.8	87.8	175.0	187.1
1961.....	166.0	92.7	85.6	179.1	193.9
1962.....	180.1	94.5	87.2	190.6	206.5
1963.....	191.7	95.6	87.4	200.7	219.5
1964.....	205.0	98.1	89.2	209.0	229.9
1965.....	221.4	100.5	90.5	220.3	244.5
1966.....	239.7	102.7	92.0	233.3	260.6
Annual trend rate of change.....p.c.	+4.7	-0.1	-0.7	+4.8	+5.4

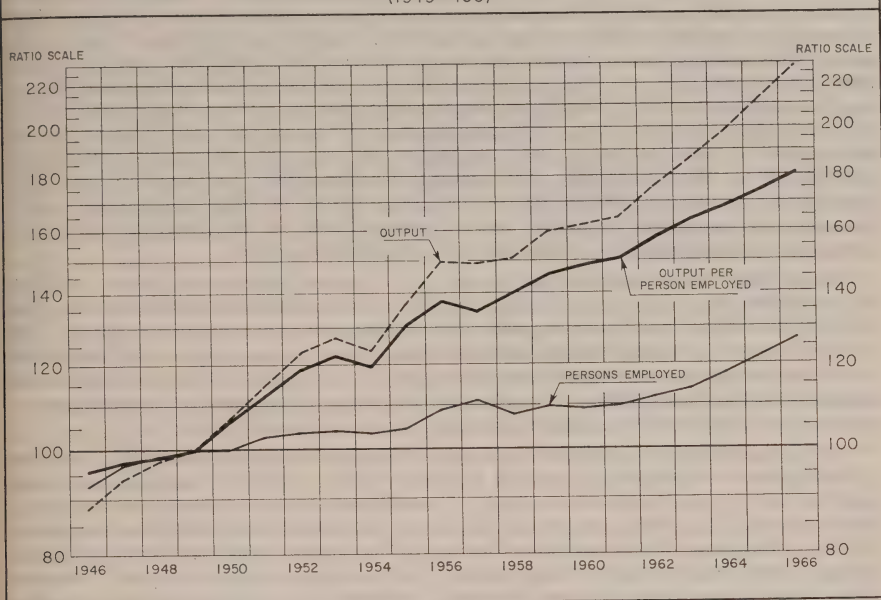
15.—Indexes of Output per Person Employed and per Man-Hour, 1946-66—continued

Year	Output	Persons Employed	Man-Hours	Output per Person Employed	Output per Man-Hour
COMMERCIAL SERVICE-PRODUCING INDUSTRIES					
1946.....	88.0	86.0	87.7	102.2	100.3
1947.....	94.8	93.5	94.3	101.3	100.4
1948.....	96.3	97.4	98.1	98.9	98.2
1949.....	100.0	100.0	100.0	100.0	100.0
1950.....	105.3	101.6	99.4	103.6	105.9
1951.....	110.4	105.3	102.0	104.9	108.3
1952.....	116.2	109.4	105.6	106.1	110.0
1953.....	120.7	112.1	106.6	107.7	113.2
1954.....	121.2	113.6	107.8	106.7	112.4
1955.....	130.8	117.0	110.2	111.8	118.7
1956.....	141.3	124.3	117.2	113.7	120.5
1957.....	144.1	130.6	122.4	110.4	117.7
1958.....	146.4	131.2	122.2	111.6	119.8
1959.....	155.3	135.2	125.6	114.9	123.7
1960.....	158.2	137.1	126.5	115.4	125.1
1961.....	162.2	140.3	128.1	115.6	126.6
1962.....	169.4	143.5	130.6	118.0	129.6
1963.....	178.3	147.5	133.0	120.9	134.0
1964.....	188.8	154.4	138.7	122.2	136.1
1965.....	200.9	161.8	144.0	124.1	139.5
1966.....	211.8	169.5	148.8	125.0	142.3
Annual trend rate of change..... p.c.	+4.3	+3.1	+2.4	+1.1	+1.8
AGRICULTURE					
1946.....	109.4	109.4	112.1	100.0	97.6
1947.....	102.8	103.5	102.4	99.3	100.4
1948.....	106.1	101.1	100.8	104.9	105.3
1949.....	100.0	100.0	100.0	100.0	100.0
1950.....	106.2	93.9	91.8	113.1	115.7
1951.....	120.9	86.6	86.2	139.6	140.3
1952.....	148.8	82.2	82.6	181.0	180.2
1953.....	136.3	79.2	81.1	172.2	168.0
1954.....	104.3	81.0	83.9	128.8	124.4
1955.....	132.1	75.6	78.4	174.9	168.5
1956.....	141.7	71.6	74.8	198.0	189.4
1957.....	117.5	68.6	70.9	171.2	165.7
1958.....	125.1	65.7	66.7	190.5	187.5
1959.....	125.1	63.8	64.7	196.0	193.4
1960.....	127.9	62.3	62.9	205.5	203.5
1961.....	116.0	62.2	61.6	186.5	188.3
1962.....	134.7	60.2	59.3	223.6	227.2
1963.....	147.5	59.1	57.4	249.5	256.9
1964.....	140.2	57.6	55.1	243.6	254.7
1965.....	149.9	54.2	51.4	276.4	292.0
1966.....	167.5	49.6	47.8	337.5	350.6
Annual trend rate of change..... p.c.	+1.7	-3.6	-3.8	+5.6	+5.8
COMMERCIAL NON-AGRICULTURAL INDUSTRIES					
1946.....	85.3	86.9	88.6	98.1	96.2
1947.....	92.8	94.6	95.3	98.1	97.3
1948.....	96.3	97.8	98.6	98.5	97.7
1949.....	100.0	100.0	100.0	100.0	100.0
1950.....	106.7	102.0	100.1	104.6	106.7
1951.....	114.1	107.7	104.8	106.0	108.9
1952.....	119.5	110.4	106.6	108.3	112.2
1953.....	125.8	112.1	107.5	112.2	116.9
1954.....	126.0	110.6	104.9	113.9	120.1
1955.....	137.5	114.1	107.9	120.5	127.4
1956.....	150.9	121.0	115.0	124.7	131.2
1957.....	153.5	124.5	116.4	123.3	131.9
1958.....	154.2	121.3	112.3	127.1	137.2
1959.....	163.9	124.3	115.5	131.8	141.9
1960.....	166.1	124.2	114.6	133.8	145.0
1961.....	170.8	124.7	113.4	137.0	150.7
1962.....	181.0	128.4	117.4	141.0	154.1
1963.....	191.2	131.5	119.8	145.4	159.6
1964.....	205.8	137.4	125.4	149.8	164.2
1965.....	221.0	144.0	130.0	153.5	170.1
1966.....	235.9	151.0	135.1	156.3	174.6
Annual trend rate of change..... p.c.	+4.8	+2.2	+1.6	+2.5	+3.2

15.—Indexes of Output per Person Employed and per Man-Hour, 1946-66—concluded

Year	Output	Persons Employed	Man-Hours	Output per Person Employed	Output per Man-Hour
Non-agricultural Goods-producing Industries					
1946.....	82.8	87.7	89.5	94.5	92.6
1947.....	91.0	95.5	96.8	95.4	94.1
1948.....	96.3	98.1	99.4	98.1	96.9
1949.....	100.0	100.0	100.0	100.0	100.0
1950.....	108.0	102.4	101.9	105.5	106.1
1951.....	117.5	109.7	108.5	107.0	108.2
1952.....	122.6	111.2	109.5	110.3	112.0
1953.....	130.4	112.1	110.7	116.3	117.8
1954.....	130.4	107.9	104.5	120.8	124.8
1955.....	143.5	111.6	107.8	128.6	133.2
1956.....	159.7	118.2	114.4	135.1	139.6
1957.....	162.1	119.3	114.5	135.9	141.6
1958.....	161.2	112.6	107.7	143.2	149.7
1959.....	171.6	114.9	110.4	149.4	155.5
1960.....	173.3	113.0	107.8	153.4	160.8
1961.....	178.7	111.2	104.9	160.7	170.3
1962.....	191.5	115.2	109.7	166.3	174.7
1963.....	202.9	117.6	111.4	172.5	182.1
1964.....	221.4	122.6	116.6	180.5	189.8
1965.....	239.4	128.5	122.0	186.3	196.2
1966.....	258.0	134.9	127.6	191.2	202.2
Annual trend rate of change..... p.c.	+5.3	+1.4	+1.0	+3.8	+4.2
Manufacturing					
1946.....	85.2	90.0	92.3	94.7	92.3
1947.....	93.2	96.3	97.7	96.9	95.5
1948.....	97.3	98.5	100.4	98.7	96.9
1949.....	100.0	100.0	100.0	100.0	100.0
1950.....	106.7	101.7	100.8	104.9	105.9
1951.....	115.9	107.9	104.9	107.4	110.5
1952.....	120.2	110.8	106.6	108.4	112.7
1953.....	128.9	114.2	110.5	112.9	116.6
1954.....	126.0	109.3	103.9	115.2	121.3
1955.....	138.3	112.1	107.0	123.3	129.2
1956.....	151.2	116.8	112.3	129.5	134.7
1957.....	150.9	117.3	111.3	128.6	135.5
1958.....	148.0	111.5	105.8	132.8	139.9
1959.....	159.0	112.8	107.8	140.9	147.5
1960.....	161.2	111.4	105.6	144.7	152.7
1961.....	166.9	110.9	104.6	150.5	159.5
1962.....	181.2	115.4	109.3	157.0	165.8
1963.....	193.9	119.0	112.7	163.0	172.1
1964.....	211.9	124.7	118.6	169.9	178.6
1965.....	230.1	130.2	123.3	176.7	186.7
1966.....	247.2	137.1	129.1	180.3	191.5
Annual trend rate of change..... p.c.	+4.9	+1.4	+1.1	+3.4	+3.8
Non-manufacturing Industries (Commercial—Non-agricultural)					
1946.....	85.3	85.3	86.9	100.0	98.2
1947.....	92.6	93.7	94.3	98.8	98.2
1948.....	95.8	97.4	97.7	98.4	98.0
1949.....	100.0	100.0	100.0	100.0	100.0
1950.....	106.7	102.2	99.7	104.5	107.0
1951.....	113.2	107.5	104.7	105.3	108.1
1952.....	119.2	110.2	106.5	108.2	111.9
1953.....	124.2	111.0	106.2	111.9	117.0
1954.....	126.0	111.2	105.4	113.2	119.5
1955.....	137.1	115.2	108.3	119.0	126.5
1956.....	150.7	123.3	116.3	122.2	129.6
1957.....	154.9	128.4	118.7	120.6	130.5
1958.....	157.3	126.5	115.4	124.4	136.3
1959.....	166.4	130.4	119.0	127.5	139.7
1960.....	168.6	131.0	118.7	128.7	142.1
1961.....	172.8	132.1	117.4	130.8	147.2
1962.....	180.8	135.3	121.2	133.7	149.2
1963.....	189.8	138.2	123.1	137.3	154.2
1964.....	202.7	144.2	128.5	140.6	157.8
1965.....	216.4	151.4	133.1	143.0	162.6
1966.....	230.2	158.4	137.9	145.3	166.9
Annual trend rate of change..... p.c.	+4.8	+2.7	+1.9	+2.1	+2.9

INDEXES OF OUTPUT PER PERSON EMPLOYED,
COMMERCIAL INDUSTRIES, 1946-66
(1949 = 100)



Section 4.—Canadian Balance of International Payments*

Canada's total commercial and financial transactions with residents of other countries are presented in summary form in statements of the Canadian balance of international payments. The current account shows separately the principal types of transactions in goods and services with non-residents. The capital account provides a distribution of capital movements into direct and portfolio investments and into long-term and short-term forms. The difference between the current account balance and the balance of these capital movements in an accounting period is reflected in the change in the official holdings of gold, foreign exchange, and Canada's net International Monetary Fund position.

During the past decade, a wide degree of imbalance has characterized Canada's international payments. Large current account deficits have customarily been associated with periods of Canadian prosperity. High levels of investment, rising personal consumption and the growth in government expenditures, including defence outlays abroad, have contributed to the deficits. These large current deficits, which reached a peak of \$1,487,000,000 in 1959, have reflected and been financed by substantial inflows of capital. Following this record high level, the imbalances in current transactions narrowed in successive years to \$424,000,000 in 1964 but widened in 1965 to \$1,130,000,000 as a result of a sharp contraction in the merchandise surplus. At \$1,137,000,000, the current account deficit was practically unchanged in 1966.

* More detailed information is given in DBS annual report *Canadian Balance of International Payments and International Investment Position* (Catalogue No. 67-201), in the *Quarterly Estimates of the Canadian Balance of International Payments* (Catalogue No. 67-001) and in the *Canadian Balance of International Payments: A Compendium of Statistics from 1946 to 1965* (Catalogue No. 67-505 Occasional).

Current Account Transactions.—The surplus on merchandise trade,* which emerged in 1961 for the first time since 1954, expanded sharply in 1963 and in 1964 when it exceeded \$700,000,000; an important element in this rise was the extraordinary sales of wheat and flour to the Soviet Union and other Communist countries. Thus, the reduction of Canada's deficit on current transactions in goods and services between 1959 and 1964, followed by an upturn in 1965, was mainly the result of a shift in the balance of commodity trade. This balance varied widely; the record deficit of \$728,000,000 occurred in 1956 when it accounted for more than one half of the total current account deficit and the unusually large surplus of \$701,000,000 for 1964 exceeded the level of the merchandise surpluses of the immediate postwar years. Although substantially below this peak, the merchandise trade surplus of \$224,000,000 in 1966 was higher than the surpluses of \$173,000,000 and \$184,000,000 in 1961 and 1962. The non-merchandise deficit rose rapidly from 1955, when it still stood below \$500,000,000, to 1961, when the \$1,100,000,000-level was reached. In more recent years, the "invisible" deficit fluctuated within a fairly narrow range before increasing to \$1,248,000,000 in 1965 and to \$1,361,000,000 in 1966.

Since 1954, when merchandise exports and imports were almost equal at about \$3,900,000,000, exports increased fairly steadily to a record of \$10,326,000,000 in 1966 but imports, on the other hand, showed wider fluctuations in their growth pattern. The value of imports in current dollars rose more than 40 p.c. in two years to \$5,565,000,000 in 1956 and, except for a substantial drop of nearly 8 p.c. to \$5,066,000,000 in 1958, remained at about that level until 1960. Thereafter, the value rose at a generally increasing rate of growth to \$10,102,000,000 in 1966, which was over 80 p.c. above 1960.

In the past decade, the relative importance of exports of manufactured goods increased markedly, that of metals and minerals advanced more moderately, and the percentage share for forest products narrowed visibly. The relative position of wheat and wheat flour, which had been diminishing, recovered sharply in 1961 as a result of the large shipments of grain to Mainland China and other Communist countries. The very heavy shipments of wheat on the Russian account, together with sizable exports to Britain, Japan, Mainland China, West Germany and Eastern European countries, boosted the total value of wheat and wheat flour exports in 1964 and 1966 to about \$1,100,000,000. During the 1960s, an increasing share of the Canadian national output has moved into foreign markets. Contributing to the gain of nearly \$1,600,000,000 in merchandise exports in 1966 were larger shipments of wheat, wood pulp, newsprint, asbestos, copper, crude petroleum, chemicals and fertilizers, and manufactured goods. Within the manufactured goods group, exports of motor vehicles and parts almost tripled from about \$365,000,000 to over \$1,000,000,000 as a result of the signing at the beginning of 1965 of the Canada-United States Automotive Agreement. However, with the removal of tariffs from the two-way trade in new cars and parts, the imports also rose, but the deficit on trade in automobiles and parts narrowed in 1966. Shipments abroad of communication and other equipment, some types of machinery and firearms were larger.

The value of all imports rose sharply in 1966 to the highest recorded level of \$10,102,000,000. Motor vehicles and parts accounted for about \$500,000,000 or roughly a third of the expansion, and smaller but still substantial increases took place in imports of industrial materials, machinery, equipment and tools, and a variety of consumer goods.

The deficit on Canada's non-merchandise transactions with foreign countries, which since 1959 has been on a high plateau somewhat over \$1,000,000,000, rose to \$1,248,000,000 in 1965 and to \$1,361,000,000 in 1966. This deficit has more than doubled in the past decade. A total of \$812,000,000 or about 60 p.c. of the 1966 deficit on services was directly related to Canada's indebtedness abroad. Interest and dividend payments by Canadians to non-resident investors reached \$1,135,000,000, transfers in other forms of investment income amounted to more than \$250,000,000, and there were also growing payments

* Commodity trade statistics have been adjusted to reflect more closely the timing of transactions, particularly for investment goods, and to exclude commodities which are either covered elsewhere in the accounts or are not pertinent for balance of payments purposes.

abroad for a variety of business services. Furthermore, some hundreds of millions of dollars of earnings, which accrued to foreigners but which were retained in Canada for reinvestment, are excluded from the current account.

The contribution by travel transactions of nearly one fifth of the deficit in 1960 contracted sharply in the following years, in particular after the lowering of the Canadian dollar in May 1962 to a fixed par value of 92½ cents (U.S.). Except for a small surplus in 1963, the travel deficit fluctuated within a narrow range of roughly \$40,000,000 to \$65,000,000 between 1962 and 1966. High travel receipts on an unprecedented scale were recorded in the spring and summer quarters of 1967 as a result of an influx of foreign visitors who were attracted by Expo 67 and other centennial celebrations. Net payments of migrants' funds and inheritances, which represented about 6.5 p.c. of the "invisible" deficit in 1961, declined gradually and changed to surpluses of \$5,000,000 and \$70,000,000 in 1965 and 1966, respectively, as the number of immigrants rose to about 147,000 and 195,000 in the two years. The deficit on freight and shipping services fluctuated between about 3 p.c. and 8.5 p.c. of the total in the period 1961-66, and the value of gold production available for export served to reduce the non-merchandise deficit by between 9 p.c. and 15.5 p.c. The substantial remaining portion of the deficit, fluctuating between 36 p.c. and 45 p.c., originated from other transactions, including miscellaneous investment income referred to previously, personal remittances, business services and official contributions; these stood at a record level of \$162,000,000 in 1966 on account of large donations of wheat.

The characteristic bilateral distribution of the Canadian current account balances was maintained in 1966; a surplus from transactions with overseas countries partially covered a deficit with the United States. A substantial surplus on current transactions with overseas countries of about \$1,200,000,000, amounting to nearly three quarters of the current deficit with the United States, contributed to reducing Canada's over-all current deficit in 1964 to \$424,000,000, the lowest in about a decade. While the deficit on transactions in goods and services with the United States expanded sharply in 1965 to \$1,937,000,000 and further to \$2,017,000,000, the current surplus with the overseas areas declined below \$900,000,000 and accounted for less than 45 p.c. of the deficit with the United States. Canada's current deficit with all foreign countries stood at \$1,130,000,000 and \$1,137,000,000 in 1965 and 1966, respectively. For the first time in the 1960s, Canada's current surplus with Britain narrowed from \$505,000,000 to \$421,000,000 in 1966, but the surplus with other countries rose about 50 p.c. from \$302,000,000 to \$459,000,000.

Capital Movements.—In 1966, Canada continued to draw substantially on the resources, both real and financial, of the other countries of the world, although the net capital inflow of \$778,000,000 (excluding the change in official monetary assets) was about 60 p.c. of the net inflow of \$1,287,000,000 in 1965 and was approximately the same as that in 1964. Capital movements in long-term forms—covering direct investment, portfolio security transactions, official loans and other long-term investments—amounted to \$1,024,000,000 in 1966, up nearly a fifth from the total of \$864,000,000 in the preceding year. During the past decade, these long-term inflows of capital exceeded the deficit on transactions in current goods and services in 1958, 1961, 1963 and 1964. During this period, capital movements in short-term forms were on balance inward, except for net outflows of \$33,000,000 in 1964 and \$246,000,000 in 1966. This outflow was in sharp contrast to the net inflow of \$423,000,000 in 1965, the wide swing being in large measure attributable to foreign currency transactions of the chartered banks.

From the low levels of \$280,000,000 in 1963 and \$270,000,000 in 1964, the net inflow of capital for direct investment in foreign-controlled enterprises in Canada rose to \$535,000,000 in 1965 and to a record high of \$710,000,000 in 1966. In the main, the inflow continued to reflect investment by foreign corporations in their subsidiaries and branches, which contributed to new capital formation in Canada; enterprises in manufacturing, petroleum and natural gas received the largest portions. The flow of direct investment abroad of Canadian capital was estimated at \$20,000,000 in 1966; this considerably smaller amount than the average outflow in recent years reflected a sale by a Canadian oil company

of its foreign subsidiary. Capital inflows of \$645,000,000 in 1964 from transactions in Canadian and foreign securities matched the volume of the late 1950s but declined to \$546,000,000 in 1965 and \$303,000,000 in 1966, notwithstanding the rise in the sale of new Canadian bonds and debentures. An official request to Canadian borrowers in late 1965 for deferment of delivery of the proceeds of sales in the United States helped to boost the capital inflow from new issues of bonds and debentures to more than \$1,400,000,000 in 1966. In partial offset, retirements of Canadian bonds and debentures rose to about \$500,000,000, including some \$150,000,000 of special repurchases of government securities under the undertaking to the United States on a target level of Canada's foreign exchange reserves. There was also a substantial outflow of \$418,000,000 mainly from purchases of outstanding United States stocks from residents of that country, together with bonds of the International Bank for Reconstruction and Development. Canada's external monetary assets declined by \$359,000,000 in 1966. The official holdings of gold and foreign exchange contracted by \$462,000,000, while Canada's net International Monetary Fund position rose by \$103,000,000, about one half of this being due to the transfer of gold from the official holdings to meet an increase in the IMF quota.

Direct investment inflows have been a significant ingredient in the capital account in the past decade. Continuing and substantial for nearly the entire period, these receipts contributed in particular to resource development and to the growth of associated industries. However, from 1956 to 1959 and again in 1963 to 1965, the inflow for direct investment, substantial though it was, was less than the inflow of portfolio capital, as some of the sharply increased demands for new capital were channelled to foreign capital markets through the sale to non-residents of new issues of Canadian bonds and debentures. Corporations, provincial governments and municipalities were all important borrowers.

16.—Current Account Transactions Between Canada and All Countries, 1947-66

(Millions of dollars)

Year	Current Receipts		Current Payments			Net Balance on Current Account indicating Net Movement of Capital
	Merchandise	Other ¹	Merchandise	Official Contributions	Other ¹	
1947.....	2,723	1,025	2,535	38	1,126	+ 49
1948.....	3,030	1,117	2,598	23	1,075	+ 451
1949.....	2,989	1,100	2,696	6	1,210	+ 177
1950.....	3,139	1,148	3,132	5	1,469	- 319
1951.....	3,950	1,342	4,101	9	1,694	- 512
1952.....	4,339	1,534	3,854	16	1,816	+ 187
1953.....	4,152	1,587	4,212	25	1,950	- 448
1954.....	3,934	1,598	3,916	11	2,029	- 424
1955.....	4,332	1,749	4,543	24	2,201	- 687
1956.....	4,837	1,795	5,565	30	2,409	- 1,372
1957.....	4,894	1,742	5,488	40	2,559	- 1,451
1958.....	4,890	1,704	5,066	53	2,612	- 1,137
1959.....	5,151	1,725	5,572	72	2,719	- 1,487
1960.....	5,392	1,787	5,540	61	2,811	- 1,233
1961.....	5,889	1,934	5,716	56	2,979	- 928
1962.....	6,387	2,077	6,203	36	3,055	- 830
1963.....	7,082	2,230	6,579	65	3,189	- 521
1964.....	8,238	2,556	7,537	69	3,612	- 424
1965.....	8,745	2,775	8,627	93	3,930	- 1,130
1966.....	10,326	3,033	10,102	162	4,232	- 1,137

¹ Includes mutual aid to NATO countries.

17.—Geographical Distribution of the Balance on Current Account Between Canada and Other Countries, 1947-66

(Millions of dollars)

Year	United States ¹	Britain	Other Overseas Countries	All Countries	Year	United States ¹	Britain	Other Overseas Countries	All Countries
1947.....	- 1,134	+ 633	+ 550	+ 49	1957.....	- 1,579	+ 120	+ 8	- 1,451
1948.....	- 393	+ 486	+ 358	+ 451	1958.....	- 1,167	+ 97	- 67	- 1,137
1949.....	- 601	+ 446	+ 332	+ 177	1959.....	- 1,221	+ 16	- 282	- 1,487
1950.....	- 385	+ 24	+ 42	- 319	1960.....	- 1,359	+ 169	+ 43	- 1,233
1951.....	- 945	+ 223	+ 210	- 512	1961.....	- 1,341	+ 195	+ 218	- 928
1952.....	- 830	+ 387	+ 630	+ 187	1962.....	- 1,092	+ 225	+ 37	- 830
1953.....	- 907	+ 132	+ 327	- 448	1963.....	- 1,148	+ 417	+ 210	- 521
1954.....	- 800	+ 229	+ 147	- 424	1964.....	- 1,635	+ 605	+ 606	- 424
1955.....	- 1,029	+ 332	+ 10	- 687	1965.....	- 1,937	+ 505	+ 302	- 1,130
1956.....	- 1,650	+ 253	+ 25	- 1,372	1966.....	- 2,017	+ 421	+ 459	- 1,137

¹ Includes all net exports of monetary gold.

18.—Balance of International Payments Between Canada and All Countries, 1960-66

(Millions of dollars)

Item	1960	1961	1962	1963	1964	1965 [*]	1966
Current Receipts—							
Merchandise exports (adjusted).....	5,392	5,889	6,387	7,082	8,238	8,745	10,326
Mutual aid to NATO countries.....	43	35	41	23	47	39	18
Gold production available for export.....	162	162	155	154	145	138	125
Travel expenditures.....	420	482	562	609	662	747	840
Interest and dividends.....	171	213	202	230	332	322	323
Freight and shipping.....	442	486	509	563	644	668	756
Inheritances and immigrants' funds.....	102	104	124	151	169	216	268
All other current receipts.....	447	452	484	500	557	645	703
Totals, Current Receipts.....	7,179	7,823	8,464	9,312	10,794	11,520	13,359
Current Payments—							
Merchandise imports (adjusted).....	5,540	5,716	6,203	6,579	7,537	8,627	10,102
Travel expenditures.....	627	642	605	585	712	796	903
Interest and dividends.....	656	764	783	860	1,010	1,086	1,135
Freight and shipping.....	533	568	595	648	679	761	825
Inheritances and emigrants' funds.....	184	176	175	185	201	211	198
Official contributions.....	61	56	36	65	69	93	162
Mutual aid to NATO countries.....	43	35	41	23	47	39	18
All other current payments.....	768	794	856	888	963	1,037	1,153
Totals, Current Payments.....	8,412	8,751	9,294	9,833	11,218	12,650	14,496
Balance on merchandise trade.....	-148	+173	+184	+503	+701	+118	+224
Balance on other transactions.....	-1,085	-1,101	-1,014	-1,024	-1,125	-1,248	-1,361
Current Account Balance.....	-1,233	-928	-830	-521	-424	-1,130	-1,137
Capital Account—							
Direct Investment—							
Direct investment in Canada.....	+670	+560	+505	+280	+270	+535	+710
Direct investment abroad.....	-50	-80	-105	-135	-95	-125	-20
Canadian Securities—							
Trade in outstanding issues.....	+54	+100	-51	-131	-21	-219	-240
New issues.....	+448	+548	+729	+984	+1,100	+1,240	+1,463
Retirements.....	-266	-301	-319	-404	-382	-390	-502
Foreign security transactions.....	-19	-35	-65	+22	-52	-85	-418
Loans and subscriptions by Government of Canada.....	+21	+30	+107	+7	—	-4	-11
Other long-term capital transactions.....	+71	+108	-113	+14	—	-88	+42
Change in Canadian dollar holdings of foreigners.....	+123	-27	-10	+17	+12	+45	—
Other short-term capital movements.....	+142	+315	+307	+13	-45	+378	-246
Net Capital Movement, Exclusive of Monetary Items.....	+1,194	+1,218	+985	+667	+787	+1,287	+778
Official Monetary Movements—							
Change in official holdings.....	-39	+229	+537	+60	+86	-11	-462
Change in net International Monetary Fund position.....	—	+61	-378	+86	+277	+168	+103
Other special international financial assistance.....	—	—	-4	—	—	—	—

19.—Current and Capital Account Transactions Between Canada and the United States, 1960-66

(Millions of dollars)

Item	1960	1961	1962	1963	1964	1965*	1966
Current Receipts—							
Merchandise exports (adjusted).....	3,040	3,213	3,767	3,970	4,396	4,993	6,240
Gold production available for export.....	162	162	155	154	145	138	125
Travel expenditures.....	375	435	512	549	590	660	730
Interest and dividends.....	98	112	120	155	190	204	193
Freight and shipping.....	220	230	259	279	301	337	411
Inheritances and immigrants' funds.....	50	51	61	65	77	91	106
All other current receipts.....	342	336	345	342	359	409	433
Totals, Current Receipts.....	4,287	4,539	5,219	5,514	6,058	6,832	8,247
Current Payments—							
Merchandise imports (adjusted).....	3,713	3,828	4,205	4,458	5,204	6,034	7,242
Travel expenditures.....	462	459	419	388	481	548	631
Interest and dividends.....	535	630	656	727	850	906	977
Freight and shipping.....	324	333	353	378	399	465	531
Inheritances and emigrants' funds.....	142	136	139	152	157	160	145
All other current payments.....	470	494	539	559	602	656	738
Totals, Current Payments.....	5,646	5,880	6,311	6,662	7,693	8,769	10,264
Current Account Balance.....	-1,359	-1,341	-1,092	-1,148	-1,635	-1,937	-2,017
Capital Account—							
Direct Investment—							
Direct investment in Canada.....	+461	+366	+328	+220	+188	+421	+644
Direct investment abroad.....	-18	-25	+6	-36	-35	-24	+67
Canadian Securities—							
Trade in outstanding issues.....	+47	+196	+73	-64	-14	-174	-167
New issues.....	+382	+489	+690	+930	+1,040	+1,200	+1,408
Retirements.....	-214	-220	-247	-315	-300	-330	-456
Foreign security transactions.....	+4	-7	-55	+25	-41	-72	-389
Other long-term capital transactions.....	+84	+154	-115	+83	+175	+84	+98
Change in Canadian dollar holdings of foreigners.....	+59	-23	+27	+7	+16	+10	+15
Other short-term capital movements.....	+169	+381	+366	-21	+610	-678	-182
Net Capital Movement.....	+974	+1,311	+1,073	+829	+1,639	+437	+1,038
Balance Settled by Exchange Transfers.....	+346	+257	+554	+378	+27	+1,543	+496
Official Monetary Movements—							
Change in official holdings.....	-39	+227	+538	+59	+31	+43	-483
Other special international financial assistance.....	—	—	-3	—	—	—	—

20.—Current Account Transactions Between Canada and Britain, 1960-66

(Millions of dollars)

Item	1960	1961	1962	1963	1964	1965*	1966
Current Receipts—							
Merchandise exports (adjusted).....	924	924	924	1,017	1,219	1,184	1,133
Travel expenditures.....	20	21	22	28	33	34	39
Interest and dividends.....	32	37	28	31	80	44	36
Freight and shipping.....	93	100	98	105	130	132	121
Inheritances and immigrants' funds.....	26	25	28	43	46	55	81
All other current receipts.....	53	54	66	77	102	109	110
Totals, Current Receipts.....	1,148	1,161	1,166	1,301	1,610	1,558	1,520

20.—Current Account Transactions Between Canada and Britain, 1960-66—concluded

Item	1960	1961	1962	1963	1964	1965*	1966
Current Payments—							
Merchandise imports (adjusted).....	611	593	578	521	584	624	664
Travel expenditures.....	70	71	71	70	80	89	94
Interest and dividends.....	83	87	85	82	104	114	97
Freight and shipping.....	89	93	88	94	89	86	88
Inheritances and emigrants' funds.....	25	23	18	15	24	30	30
All other current payments.....	101	99	101	102	124	110	126
Totals, Current Payments.....	979	966	941	884	1,005	1,053	1,099
Current Account Balance.....	+169	+195	+225	+417	+605	+505	+421

Section 5.—Canada's International Investment Position*

Canada's balance of international indebtedness reached a book value of approximately \$24,000,000,000 by the end of 1967, a sixfold increase over the past decade. Long-term foreign investment in Canada was approaching \$34,000,000,000 and other claims of non-residents added about \$5,000,000,000 to Canada's liabilities. Canadian assets abroad had a total book value of \$15,000,000,000, including long-term investments amounting to about \$9,000,000,000.

The balance of international indebtedness is a phrase generally accepted in balance of payments terminology to include equity investments as well as contractual borrowings. Its size and character have a considerable influence on Canada's balance of payments. This is true not only through the servicing of capital involving interest, dividends and miscellaneous income payments, but also through the influence of foreign investment on the Canadian economy and on the shape and direction of its external demands.

Canada has been among the world's largest importers of private long-term capital. The very substantial capital formation which was a feature particularly of the 1950s was associated with an unprecedented growth in the country's external liabilities. These investments contributed to a rapid rate of growth in the Canadian economy, particularly in the exploitation of natural resources, and added significantly to Canadian production, employment and income. At the same time they added substantially to the continuing burden of Canada's external debt and to the proportion of Canadian industry controlled by non-residents.

Canada's gross external liabilities amounted to \$35,400,000,000 at the end of 1965; non-resident-owned long-term investments in Canada reached a book value of \$29,400,000,000 (in the two decades following World War II their value quadrupled). The part of these investments in enterprises controlled outside of Canada totalled \$17,200,000,000. There was a sharp expansion in direct investments in 1965 following the more moderate rates of growth recorded in recent years. Investments in other Canadian equities, although smaller, were also substantial, and there were periods in recent years of sharp increase in foreign holdings of Canadian bonds and debentures.

Investments of non-resident capital have been closely related to the high rate of growth in Canada and to the heavy demands placed on capital markets by this factor and by the

* This review covers Canada's international investment position in 1965, although a few estimated totals for 1967, available at the time of writing are included in the first paragraph and under the heading "Canada's Assets Abroad". An extended historical review appears in DBS report *Canada's International Investment Position, 1926 to 1964* (Catalogue No. 67-503) and more recent statistics in the annual report *Canadian Balance of International Payments and International Investment Position* (Catalogue No. 67-201). Additional detailed material will be found in the annual report under the Corporations and Labour Unions Returns Act.

financial needs of governments and municipalities. Large development projects have been initiated and financed by investors from other countries and the growth effects from this investment have, in turn, led to Canadian borrowing in capital markets outside Canada. While capital inflows have been the principal source of the increased indebtedness abroad, another substantial contributor has been the earnings from non-resident-controlled branches and subsidiaries which were retained in Canada. New resource industries depending to a large extent on non-resident financing include all branches of the petroleum industry, iron ore, potash and other mining, aluminum, nickel, pulp and paper, and chemical industries. In addition, secondary industry has also benefited from non-resident investment.

Canada's gross external assets totalled \$13,400,000,000 at the end of 1965 and government-owned assets made up a substantial part of that total. Canada's net balance of international indebtedness, including equity investments, at the same date was estimated at \$22,000,000,000, more than three quarters of which was incurred since 1950.

Foreign Investments in Canada.—Dependence upon external sources of capital for financing in periods of heavy investment activity has been characteristic of Canadian development. During the exceptional growth that occurred before World War I, non-resident investment was very high and the main source of that investment was London. However, during the first part of the inter-war period, the United States became the principal source of external capital and by 1926 the portion of Canada's international debt owned in that country exceeded that owned in Britain. With some interruption during the 1930s, United States investment in Canada continued to increase, particularly after 1947 when the period of intense activity in the petroleum industry got under way. Nearly half of the United States investment in Canada at the end of 1965 was accumulated since 1956. At \$23,276,000,000, United States investments in the later year continued to represent more than three quarters of all non-resident investments in Canada and made up over 80 p.c. of the increase since 1956. The main rise occurred in direct investments in companies controlled in the United States, which almost doubled in the 1956-65 period. In the same period, portfolio investments in Canada owned in the United States more than doubled, due mainly to large sales of new issues of securities made in that country.

British investments in Canada totalled \$3,481,000,000 at the end of 1965 and accounted for only about 12 p.c. of the total non-resident investments in Canada compared with 36 p.c. at the end of 1939 before most of the wartime repatriations. After reaching a low point in 1948, the value of British investments in Canada increased each year to 1962, declined slightly in 1963, partly as a result of Canadian repatriation of investments in railways and other utilities, and increased again in 1964 and 1965.

Investments of countries other than the United States and Britain reached a record total of \$2,690,000,000 at the end of 1965. Exceeding three times the 1955 figure, this represented a much higher rate of increase than had occurred in either United States or British investments, and large increases had taken place in portfolio holdings of securities as well as in direct investments. At about 9 p.c. of the total, compared with 6 p.c. in 1954, this group of countries, mostly in Western Europe, accounted for a slightly larger proportion of total foreign investments than in 1964. Over 90 p.c. of the direct investments, which totalled \$1,260,000,000 in 1965, came from Western Europe; about one quarter was of Netherlands origin, with Belgian, French, Swiss and German investments making up the next largest groups.

The degree of dependence upon non-resident capital for financing Canadian investment has been relatively much less in the postwar period than in the earlier periods of exceptional expansion, even though the rise in non-resident investments has been so great. Thus, from 1950 to 1953 the net use of foreign resources amounted to about one seventh and direct foreign financing to almost 30 p.c. of net capital formation in Canada. But from 1958 to 1961 when these ratios had increased considerably to 34 p.c. and 47 p.c., respectively, they were still less than the corresponding ratios in the 1929 to 1930 period when inter-war

investment activity was at its highest point. In that shorter period more than one half of net capital formation was financed from outside of Canada, and in the period of heavy investment before World War I an even larger ratio of investment was financed by external capital. After 1961 these ratios declined somewhat; from 1962 to 1965 the net use of foreign resources comprised 19 p.c. of net capital formation in Canada and direct foreign financing 43 p.c. In considering these changes it should be noted that for a decade and a half, between 1934 and 1949, Canada was a net exporter of capital and that Canadian assets abroad have been rising over a long period.

It should also be noted that the above ratios relate to the place of non-resident investments in all spheres of development including those where Canadian sources of financing predominate such as in merchandising, agriculture, housing, public utilities and other forms of social capital. Thus, non-resident financing of manufacturing, petroleum and mining has been much higher than the over-all ratios indicate and has provided the major portion of the capital investment in this field in the period since 1948. The most recent comprehensive calculation of the ratios of non-resident ownership in Canadian manufacturing, mining and petroleum is for the year 1963 and it should be noted that subsequent changes may have increased non-resident ownership even more. In that year the Canadian manufacturing industry was 54 p.c. owned by non-residents but capital subject to foreign control was 60 p.c. These proportions compared with 47 p.c. and 51 p.c., respectively, as recently as the end of 1954. In the field of petroleum and natural gas, non-resident ownership and control amounted to 64 p.c. and 74 p.c., respectively, at the end of 1963, whereas at the end of 1954 non-resident ownership and control had amounted to 60 p.c. and 69 p.c., respectively; in mining and smelting, non-resident ownership and control amounted to 62 p.c. and 59 p.c., respectively, compared with 53 p.c. and 51 p.c. in 1954. However, resident-owned Canadian capital continued to play a leading role in the financing of such areas of business as merchandising, railways and other public utilities. Hence, non-resident ownership in a broad range of business activity, including manufacturing, petroleum, mining, merchandising and railways and utilities, rose only slightly from 32 p.c. in 1948 to 35 p.c. in 1963. But, in the same years, companies subject to non-resident control increased from 25 p.c. to 34 p.c. their share of the total even in this broad area of business, a trend also evident in many subdivisions of the manufacturing and extractive industries.

Another basis of judging the place of foreign-controlled business in Canadian industry is provided by a special study of production and employment in the larger Canadian manufacturing establishments controlled by non-residents. The enterprises having an investment in Canada of \$1,000,000 or more accounted for about 40 p.c. of Canadian manufacturing production in 1961 and 29 p.c. of employment in that field. About 33 p.c. of Canadian manufacturing production and 22 p.c. of employment originated with United States-controlled plants. These ratios in United States-controlled plants were somewhat higher than in 1953—the previous year for which a study of this kind was made. In some industries the proportions of production and employment in plants controlled by non-residents were much higher than this. Automobiles, for example, are produced mainly in United States-controlled plants, but this is exceptional. Other industries in which well over one half of the production is in non-resident-controlled firms include the smelting and refining of non-ferrous metals, petroleum refining, motor vehicle parts, aircraft and parts, and industrial chemicals. In several major industries like fruit and vegetable canning and preserving, and miscellaneous machinery and equipment manufacturing the distribution of control between Canadian and foreign-controlled companies is more even. In such industries as pulp, paper, and miscellaneous food manufacturing, the non-resident share is large although less than one half of the total.

There are, however, many industries where the largest part of production is in Canadian-controlled plants. Prominent among these are such important branches of industry as iron and steel mills, sawmills, feed manufacturing, clothing, and such divisions of the food and beverage group as bakeries and slaughtering and meat packing, pasteurizing and butter and cheese plants.

21.—Estimate of the Canadian Balance of International Indebtedness, as at Dec. 31, 1949-61

NOTE.—Totals are rounded and may not represent the sum of their components.

(Billions ['000 millions) of dollars)

Item	1949	1959	1960	1961	1962	1963	1964	1965
Canadian Liabilities—								
Direct investment.....	3.6	11.9	12.9	13.7	14.7	15.4	15.9	17.2
Government and municipal bonds.....	1.8	3.1	3.3	3.4	3.7	4.2	4.7	5.0
Other portfolio investments.....	2.3	4.6	4.6	4.7	4.7	4.7	4.7	5.1
Miscellaneous investments.....	0.3	1.3	1.4	1.7	1.8	1.8	2.0	2.1
Foreign Long-Term Investments in Canada.....	8.0	20.9	22.2	23.6	24.9	26.1	27.4	29.4
Equity of non-residents in Canadian assets abroad.....	0.3	1.0	1.1	1.2	1.3	1.4	1.6	1.6
Canadian dollar holdings of non-residents.....	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6
Gross Liabilities¹.....	8.7	22.4	24.0	25.4	26.8	28.1	29.5	31.7
United States ¹	6.4	17.0	18.0	19.3	20.6	22.0	23.1	..
Britain ¹	1.8	3.4	3.5	3.5	3.6	3.5	3.6	..
Other countries ^{1,2}	0.5	2.1	2.4	2.5	2.6	2.6	2.8	..
Short-term payables ³	0.6	1.4	1.6	1.9	2.0	2.3	3.2 ⁴	..
Gross Liabilities.....	9.3	23.8	25.6	27.3	28.8	30.4	32.8	35.4
Canadian Assets—								
Direct investment.....	0.9	2.3	2.5	2.6	2.8	3.1	3.3	3.5
Portfolio investments.....	0.6	1.2	1.3	1.5	1.7	1.8	1.9	2.1
Government of Canada credits.....	2.0	1.5	1.5	1.4	1.3	1.3	1.5	1.5
Government of Canada subscriptions to international investment agencies.....	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Miscellaneous investments ⁵	—	—	—	0.1	0.2	0.3	0.4	0.6
Canadian Long-Term Investments Abroad.....	3.6	5.0	5.3	5.7	6.2	6.6	7.3	7.8
Government of Canada holdings of gold and foreign exchange.....	1.2	1.8	1.8	2.2	2.7	2.8	2.9	2.9
Net IMF position.....	0.1	0.1	0.2	0.2	-0.1	-0.1	0.2	0.4
Other Canadian short-term holdings of exchange.....	0.1	1.0	1.2	1.1	1.0	1.3	1.8	1.7
Gross Assets¹.....	5.1	8.0	8.5	9.2	9.8	10.6	12.2	12.8
Government of Canada holdings of gold, foreign exchange and net IMF position..	1.3	1.9	2.0	2.4	2.6	2.7	3.1	3.3
United States ^{1,6}	1.3	3.3	3.7	3.9	4.1	4.7	4.9	..
Britain ^{1,6}	1.6	1.4	1.5	1.5	1.6	1.9	2.6	..
Other countries ^{1,2}	0.9	1.3	1.3	1.4	1.5	1.3	1.6	..
Short-term receivables ³	0.2	0.5	0.5	0.5	0.5	0.5	0.4	..
Gross Assets.....	5.3	8.5	9.0	9.7	10.2	11.1	12.7	13.4
Canadian Net International Indebtedness—Net Liabilities.....	4.0	15.3	16.6	17.6	18.6	19.3	20.1	22.0
Government of Canada holdings of gold, foreign exchange and net IMF position..	-1.3	-1.9	-2.0	-2.4	-2.6	-2.7	-3.1	-3.3
United States ^{1,6}	5.1	13.6	14.3	15.4	16.5	17.3	18.2	..
Britain ^{1,6}	0.2	1.9	2.0	2.0	2.0	1.6	1.0	..
Other countries ^{1,2}	-0.4	0.8	1.1	1.1	1.1	1.4	1.2	..
Short-term indebtedness ³	0.4	1.0	1.1	1.4	1.6	1.8	2.8	..

¹ Excludes short-term receivables and payables.² Includes international investment agencies.³ Country

distribution not available.

⁴ Includes about \$900,000,000 of finance company obligations, some of which were in earlier years shown as long-term investments.⁵ Includes reserve against inactive assets.⁶ Excludes

Government of Canada holdings of gold and foreign exchange.

22.—Foreign Capital Invested in Canada, by Type of Investment, as at Dec. 31, 1951-65

(Millions of dollars)

Type of Investment	1951	1959	1960	1961	1962	1963	1964	1965
Government Securities—								
Federal.....	1,013	612	611	657	788	899	897	880
Provincial.....	771	1,585	1,632	1,743	1,862	2,217	2,564	2,828
Municipal.....	319	915	1,026	1,038	1,087	1,091	1,221	1,257
Totals, Government Securities.....	2,103	3,112	3,269	3,438	3,737	4,207	4,682	4,965
Public Utilities—								
Railways.....	1,436	1,405	1,406	1,366	1,270	1,231	1,236	1,039
Other (excluding pipelines and public enterprises).....	524	739	743	656	691	590	605	666
Totals, Public Utilities.....	1,960	2,144	2,149	2,022	1,961	1,821	1,841	1,705
Manufacturing (excluding petroleum refining).....	2,715	5,726	6,115	6,446	6,731	7,074	7,532	8,336
Petroleum and natural gas.....	693	3,455	3,727	4,029	4,384	4,703	4,786	5,177
Other mining and smelting.....	586	1,783	1,977	2,094	2,297	2,347	2,473	2,555
Merchandising.....	377	878	872	917	972	1,003	1,092	1,201
Financial.....	595	2,190	2,380	2,616	2,688	2,847	2,503	2,875
Other enterprises.....	120	284	297	348	366	361	408	483
Miscellaneous investments.....	328	1,285 ¹	1,428	1,696	1,753	1,771	2,037 ²	2,150 ^{2,p}
Totals, Investment.....	9,477	20,857	22,214	23,606	24,889	26,134	27,354	29,447
United States³.....	7,259	15,826	16,718	18,001	19,155	20,479	21,443	23,276
Britain³.....	1,778	3,199	3,359	3,381	3,399	3,331	3,463	3,481
Other countries.....	440	1,832	2,137	2,224	2,335	2,324	2,448	2,690

¹ New series.² Includes \$273,000,000 of Columbia River Treaty receipts.³ Includes some investments held for residents of other countries.**23.—Foreign Capital Invested in Canada, by Type of Investment, classified by Estimated Distribution of Ownership, as at Dec. 31, 1965**

NOTE.—Common and preferred stocks are at book values as shown in the balance sheets of the issuing companies; bonds and debentures are valued at par; and liabilities in foreign currencies are converted into Canadian dollars at par of exchange.

Type of Investment	Estimated Distribution of Ownership			Total Investments of Non-residents
	United States ¹	Britain ¹	Other Countries	
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Government Securities—				
Federal.....	675	10	195	880
Provincial.....	2,729	62	37	2,828
Municipal.....	1,214	28	15	1,257
Totals, Government Securities.....	4,618	100	247	4,965
Public Utilities—				
Railways.....	401	473	165	1,039
Other (excluding pipelines and public enterprises).....	619	24	23	666
Totals, Public Utilities.....	1,020	497	188	1,705
Manufacturing (excluding petroleum refining).....	6,904	1,066	366	8,336
Petroleum and natural gas.....	4,170	509	498	5,177
Other mining and smelting.....	2,199	199	157	2,555
Merchandising.....	822	283	96	1,201
Financial.....	1,823	566	486	2,875
Other enterprises.....	395	61	27	483
Miscellaneous investments.....	1,325 ²	200	625	2,150 ^{2,p}
Totals, Investments.....	23,276	3,481	2,690	29,447

¹ Includes some investments held for residents of other countries.² Includes \$273,000,000 of Columbia River Treaty receipts.

Canadian Assets Abroad.—Although there has been a great growth in non-resident investment in Canada and in the balance of indebtedness of other countries, it will be noted that Canadian assets abroad, shown in Tables 21, 24 and 25, have continued to rise in value. These now equal a larger proportion of liabilities abroad than was the case before World War II, but more than one quarter of the increase since then has been in government-owned assets such as the official reserves and the loans by the Canadian Government to other governments which were extended during the war and early postwar years. At the end of 1965 the government credits outstanding had a value of \$1,496,000,000 and at the end of 1967 official holdings of exchange and Canada's net IMF position amounted to some \$2,926,000,000 in terms of Canadian dollars. Other official Canadian assets include Canada's subscriptions to the capital of the International Bank for Reconstruction and Development, the International Development Association, the International Finance Corporation and the Asian Development Bank which, by March 1967, amounted to \$85,023,249, \$70,722,136, \$3,522,375 and \$2,702,700, respectively; these were partly offset by liabilities to these institutions.

The portion of the assets in private investments, particularly in the form of direct investments abroad by Canadian companies, is still small in relation to the corresponding non-resident stake in equities in Canada. Private long-term investments abroad by Canadians in 1965 were made up of direct investments of \$3,495,000,000 and portfolio investments of \$2,136,000,000. About two thirds of the privately owned investments were located in the United States. Direct investments in that country by Canadian businesses have grown rapidly and are found in many fields, among which the beverage and farm implement industries are particularly noteworthy.

Private investments in overseas countries are widely distributed. Somewhat more than one half of the total in 1965 were located in Commonwealth countries, with slightly more in Britain than in the remainder of the Commonwealth. Most of the direct investments in Britain were in industry, while in other Commonwealth countries investments in mining were of almost equal importance with those in industry. In foreign overseas countries the largest part was in the countries of Latin America where Canadian holdings in public utilities are substantial.

24.—Canadian Long-Term Investments Abroad, 1956-65

NOTE.—Excludes investments of insurance companies and banks (held mainly against liabilities to non-residents), Canada's subscriptions to international investment agencies, and miscellaneous investments (Table 21). Holdings of stocks are at book values as shown in the books of issuing companies; holdings of bonds are shown at par values. Foreign currencies are converted into Canadian dollars at current market rates.

(Millions of dollars)

Assets	1956	1959*	1960*	1961*	1962*	1963*	1964*	1965
Direct investments in enterprises outside Canada.....	1,891	2,286	2,467	2,596	2,784	3,082	3,298	3,495
Portfolio holdings of foreign securities.....	1,006	1,183	1,315	1,471	1,723	1,806	1,942	2,136
Government credits.....	1,587	1,495	1,462	1,424	1,301	1,285	1,517 ¹	1,496 ¹
Totals.....	4,484	4,964	5,244	5,491	5,808	6,173	6,757	7,127

¹ Includes \$219* 000,000 and \$187,000,000 in 1964 and 1965, respectively, covering medium-term non-marketable United States Government securities acquired under the Columbia River Treaty arrangements.

25.—Canadian Long-Term Investments Abroad, by Location, as at Dec. 31, 1965

NOTE.—See headnote to Table 24.

Location of Investment	Direct Investments	Portfolio Investments		Government Credits	Total Investments
		Stocks	Bonds		
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
United States.....	2,041	1,515	119	187	3,862
Britain.....	508	60	14	1,078	1,660
Other Commonwealth countries.....	453	15	31	19	518
Other foreign countries.....	493	246	136	212	1,087
Totals.....	3,495	1,836	300	1,496	7,127

Section 6.—Government Economic Planning Agencies**Subsection 1.—The Economic Council of Canada**

The Economic Council of Canada, a Crown corporation established by Act of Parliament (SC 1963, c. 11) assented to on Aug. 2, 1963, is an independent economic advisory body with broad terms of reference. Its research, analysis and recommendations on a wide range of economic and social matters are designed to help governments and private groups in developing their own longer-term plans, programs and policies. The Council consists of 28 members appointed by the Governor in Council. Included are a chairman and two directors who serve on a full-time basis in their capacity as professional economists, and 25 part-time members who are representative of industry, labour, finance and commerce, agriculture and other primary industries, and of the general public. There are no officials or representatives of government among its members and the Council has no executive or administrative functions.

The central features of the Council's duties are "to advise and recommend... how Canada can achieve the highest possible levels of employment and efficient production in order that the country may enjoy a high and consistent rate of economic growth and that all Canadians may share in rising living standards; to recommend what government policies... will best help to realize the potentialities of growth of the economy; to consider means of strengthening and improving Canada's international financial and trade position;... to study how national economic policies can best foster the balanced economic development of all areas of Canada...". Such duties, and others stated in the Act, encompass the basic economic and social goals that have come to be widely accepted in all modern states. These aims usually are briefly stated as full employment, a high rate of economic growth, reasonable stability of prices, a viable balance of payments, and an equitable distribution of rising incomes. Since the Second World War, in a period of accelerating change, the consistent and simultaneous achievement of such objectives has become a major preoccupation of public policy. An increasing number of countries have sought to develop special procedures and machinery to facilitate the attainment of such goals. The creation of the Economic Council of Canada is a part of this development.

In carrying out its duties, the Council proceeds through a combination of professional research and analysis, consultation, and the first-hand knowledge and experience of the Council members, in order to achieve a consensus of the Council on the goals and the broad courses of action and policies to be pursued both in the private sector and among governments. The attainment of this consensus is the essence of the longer-range planning function of the Council.

Results of the Council's work are published in several forms. Since it is required to issue each year "a review of medium- and long-term economic prospects and problems",

the Council's major publications to date have been its *Annual Reviews*.^{*} In addition, the Council also has the freedom to publish on its own initiative, and to date has issued approximately 40 publications.[†] These include several of the technical and general background studies available to the Council in its preparation of the *Reviews*, special Council documents in the area of labour-management relations and industrial research and development, reports on several conferences sponsored by the Council, and several papers prepared by consultants and designed to acquaint the executives of small- and medium-size businesses with some of the new management concepts and new technologies.

In its *First Annual Review* the Council stated its underlying philosophy of approach in this way:—

"We are concerned not with the question of inventing new forms of intervention, but rather with ordering and developing our policies and social programmes in a rational and coherent manner designed to accomplish consistently what the society has declared to be its economic and social goals. For this purpose it is essential to bring to bear the needs of the future on the decisions of today. This applies not only to decisions by governments but also to decisions in the private sector of the economy."

Canada's Economic Potential

The Canadian economy since the Second World War has encountered at one time or another inflation, higher unemployment, slow rates of economic growth, and even crises in the balance of international payments. This experience serves well to demonstrate that the real problem is not how to achieve one particular economic or social objective, but rather how to attain all of them—consistently—at the same time. This is another way of saying that the various goals are not always compatible with each other; there is always an overriding requirement to reconcile conflicts.

Once there is general public agreement on the broad set of goals to be pursued, the next task is to define them quantitatively in accordance with Canadian circumstances and possibilities. This the Council has done, publishing "targets". These targets are not forecasts or prophecies but are intended to be measures of desirable performance of the economy—that is, concrete aims of public policy. These objectives or targets were first set out by the Council in its *First Annual Review* and were revised and updated in the *Fourth Annual Review*.

Full Employment.—The Council believes that, over the medium-term future, economic policies should be actively directed toward achieving 97 p.c. employment—that is, no more than 3 p.c. of the labour force unemployed. But this is not regarded by the Council as an ultimate or satisfactory goal for all time; as it has stated, "We would hope that with sustained improvement in our economic performance it may eventually become realistic to aim for an even better performance in the level of employment". The Council also emphasized that the target rate is an average annual rate allowing for seasonal variations, and is a national average within which there will be some regional variation.

The Council reported in 1967 that, over the next decade, Canada will have the most rapidly growing labour force of any industrial nation. The total labour force is expected

^{*} The *Reviews*, like all Council publications, are available from the Queen's Printer, Ottawa. They are: *First Annual Review: Economic Goals for Canada to 1970* (\$2.50, Catalogue No. EC21-1/1964); *Second Annual Review: Towards Sustained and Balanced Economic Growth* (\$2.75, EC21-1/1965); *Third Annual Review: Prices, Productivity and Employment* (\$2.75, EC21-1/1966); *Fourth Annual Review: The Canadian Economy from the 1960's to the 1970's* (\$2.75, EC21-1/1967).

[†] Among other Council publications of more general interest are: *The Contribution of Education to Economic Growth*, by Gordon W. Bertram (\$1.90, Catalogue No. EC22-1/12); *Business Cycles in Canada*, by Derek A. White (\$2.25, EC22-1/17); *Perspective on Canada's International Payments*, by David W. Slater (\$1.60, EC22-2/3); *Incomes Policies—Some Foreign Experiences and Their Relevance for Canada*, by David C. Smith (\$1.75, EC22-2/4); *Internal Migration in Canada, 1921-1961*, by Isabel B. Anderson (\$1.60, EC22-1/13); *Enrolment in Schools and Universities, 1951-52 to 1975-76*, by W. M. Illing and Z. Zsigmond (\$1.25, EC22-1/20); *Population, Family, Household and Labour Force Growth to 1980*, by W. M. Illing, et al. (\$1.00, EC22-1/19); *Canadian Policies for Rural Adjustment—A Study of the Economic Impact of ARDA, PFRA and MMRA*, by Helen Buckley and Eva Tihanyi (\$2.25, EC22-2/7); *National Conference on Labour-Management Relations, Ottawa, March 21-22, 1967* (\$2.00, EC22-367); *Interregional Disparities in Income*, by S. E. Chernick (\$1.75, EC22-1/14). A complete list of Council publications is available from the Secretary, Economic Council of Canada, P.O. Box 527, Ottawa. Also available from the Secretary are the *Annual Reports* of the Chairman, which include the Act establishing the Council and the membership of the Council.

to exceed 10,500,000 persons by 1980, an increase in 15 years of some 3,500,000 or 50 p.c. This implies an average annual addition to the labour force of some 240,000 persons in the 1965-70 period and between 230,000 and 240,000 in the 1970-80 period. The total Canadian labour force expansion to 1980 would exceed by over 500,000 the anticipated labour force growth in Britain, West Germany and Italy combined. Additions to both the Canadian and United States labour forces over the next 15 years will equal the entire existing work force of a large country such as West Germany or Britain. In Canada, women are expected to account for approximately 1,500,000 of the total increase of 3,500,000 in the labour force to 1980, and it is estimated that by that time women will make up about 35 p.c. of the Canadian labour force compared with about 25 p.c. at the start of the 1960s. To absorb this huge labour force increase and at the same time attain the 97-p.c. employment goal, the Canadian economy would have to expand rapidly enough to provide 1,200,000 new jobs in 1965-70 and another 1,200,000 in 1970-75.

Over the 1961-66 period, total employment in Canada rose by 1,100,000, although about three quarters of that increase was concentrated in Ontario and Quebec. The number unemployed dropped over the five-year period by approximately 200,000, but this figure masks a great regional diversity. The *proportion* of total unemployment actually shrank in the regions where the unemployment rate is low—Ontario and the Prairies—but rose in other regions where the unemployment rate is relatively high. Thus, regional pockets of unemployment persisted and the Council observed that “these have proved to be rather insensitive to changes in the tides of over-all economic activity”. Even at the height of the recent expansion, the relatively low-productivity and low-income regions and areas of the country—particularly the Atlantic region and eastern Quebec—continued to have unemployment rates regarded by the Economic Council as “unacceptably high”.

A High Rate of Economic Growth.—In seeking to define an objective for the total production of goods and services in the economy, the Economic Council has used the concept of “potential”. The potential of an economy is usually measured as the total volume of production consistent with reasonably full and efficient use of the nation's economic resources. Essentially, it is a measurement of the supply factors and capabilities of the economy and assumes that the demand conditions necessary for its actual achievement can be generated.

In its *First Annual Review* in December 1964—almost four years after the start of the most recent economic expansion—the Council calculated that the *potential* output of the economy would rise by an average $5\frac{1}{2}$ p.c. a year in the 1963-70 period. This was a high objective and reflected both the rapid expansion of the labour force and the taking up of the slack that existed in the early 1960s. The slack was, in fact, taken up more rapidly than anticipated and the actual growth in the economy averaged $6\frac{1}{2}$ p.c. a year in the 1963-65 period. Thus, any measurement of the potential growth rate for the remainder of the 1960s would have to be lower than that originally set by the Council in 1964, and in its *Fourth Annual Review* in September 1967 the Council calculated this potential rate for the 1965-70 period as 5 p.c. a year. At the same time, the Council extended its projections to the middle of the next decade and estimated that potential output in the 1970-75 period would rise at an average annual rate of $4\frac{1}{2}$ p.c. The 5-p.c. target to 1970 implies an average rate of growth in real gross national product (GNP) per capita of 3.2 p.c. a year between 1966 and 1970. On the basis of reasonable price stability, total GNP could be expected to rise by about \$4,500,000,000 a year on average as the economy moves to potential output in 1970.

The growth targets may be viewed as being composed of growth of employment on the one hand, and growth of productivity on the other. Thus, for 1965-70 the 5-p.c. growth target comprises an average annual rate of growth of over $3\frac{1}{4}$ p.c. a year in total employment and $1\frac{3}{4}$ p.c. for productivity. Similarly, the 1970-75 target comprises employment growth averaging $2\frac{3}{4}$ p.c. a year and productivity growth averaging 2 p.c. a year.

Reasonable Price Stability.—Price stability has been defined by the Council in the following terms:—

"A satisfactory degree of price and cost stability would exist if, in the period to 1970, average annual increases in prices and costs could be held within the limits of the 1953-63 experience—for example, in this period, the average annual increases in consumer prices and in the prices of all goods and services produced in Canada were 1.4 p.c. and 2.0 p.c. respectively, but with moderate year-to-year variations around these rates. An important condition for the attainment of this goal will be the achievement and maintenance of a reasonable price stability abroad and especially in the United States."

There was an extended period of generally good performance on price and cost stability over the 1961-66 expansion. Only when the previous economic slack had disappeared and the economy approached close to potential output at a time of rapid expansion in final demand in late 1965 and early 1966, did price increases become persistent and pervasive. The GNP implicit price index rose at the rate of 4.6 p.c. between 1965 and 1966. During 1966, price and cost pressures eased.

In its projections to 1970, the Council assumed that the GNP price index would rise at an average annual rate of 2 p.c. The Council said it would regard this as consistent with the attainment of a satisfactory degree of price and cost stability over the medium-term future, at least under conditions of reasonable price stability abroad, particularly in the United States. Such an average rate of price increase would imply that some demand components—government expenditures, housing, and business investment in plant and equipment—would rise at a somewhat faster rate than the total and that the rate of advance in consumer prices and in export and import prices would be somewhat less. The Council added:—

"We recognize that the achievement of this degree of price and cost stability will be extraordinarily difficult under conditions of high demand and high employment, as has been amply demonstrated by developments of the past three years. However, we continue to regard it as one of the basic goals towards which Canadians should continue to strive in the conduct of their economic affairs, with particular emphasis on longer-range policies designed to deal with basic structural and regional problems—that is, policies which would facilitate the consistent achievement of both our employment and price goals."

A Viable Balance of Payments.—After careful reappraisal in 1967, the Council concluded that the balance-of-payments goal set out in 1964 was appropriately formulated in terms of a current account deficit (and accompanying net capital inflow) at potential input in 1970 in the order of \$1,500,000,000 to \$2,000,000,000 and that this goal is still relevant.

The current account deficit was \$1,100,000,000 in 1966. It is estimated that this deficit will widen somewhat over the 1966-70 period and that, at potential output in 1970, it could be in the neighbourhood of \$1,700,000,000. The total deficit will be accounted for entirely by the deficit on services, which is projected to rise from \$1,500,000,000 in 1966 to \$1,900,000,000 at potential output in 1970. A small surplus on merchandise trade would continue.

The current account deficit of \$1,700,000,000 at potential output in 1970 would represent about 2.2 p.c. of GNP, a smaller reliance on the net import of resources from abroad than in several past periods of strong economic growth. The equivalent net capital inflow would also be correspondingly small in relation to GNP and would represent a reduced reliance on net foreign capital inflows in relation both to the domestic investment and domestic savings, compared with most previous periods of strong Canadian economic growth. At potential output in 1970, net capital inflows would make up less than 10 p.c. of the estimated total demand for savings of \$18,100,000,000. However, the Council observed that the \$1,700,000,000 capital inflow would still be a very sizable requirement for external financing in circumstances of a prevailing world shortage of capital, uncertainties about moves to strengthen the international monetary system, and possibly continuing

strains in the United States balance of payments. Thus, it would be inappropriate to assume that the external capital will always be easily available on the scale needed by Canada.

Equitable Distribution of Rising Incomes.—This is an extremely complex goal, defying simple formulation. The Council believes that much more information is needed about the distribution of income among individuals, families and various occupational groups. For example, why do some groups receive little benefit from the general rise in incomes and living standards? What elements lie behind the vicious circle of poverty that still traps far too many people? Although some of these problems may range far beyond the field of economics, the Council has said that these difficult matters will have to be understood and faced if appropriate policies are to be devised to achieve the goal of equitable distribution of rising incomes.

In this field, the Council's work to date has been concerned largely with the identification, measurement and analysis of regional disparities. The problem of assuring an appropriate participation on the part of each region in the over-all process of national economic development has long been an elusive goal and a continuing concern of the people of Canada. The Council's analysis showed that over the past four decades there has been relatively little progress toward the achievement of a better balance in this respect. Despite various policies and programs, very wide disparities have continued to exist in average per capita income. Also, there have continued to be wide differences in the extent to which the human and material resources of each region have found opportunities for productive use. Although national prosperity has always tended to have a favourable influence everywhere, rapid national growth has not by itself served to bring about any significant or lasting reduction in these large and stubborn differences.

Regional levels of personal income per capita (in current dollars) are shown for three selected groups of years in the following statement. Provinces are ranked in order of level of income in 1963 and the data are for three-year averages centred on the year shown.

<i>Province</i>	<i>1927</i>	<i>1947</i>	<i>1963</i>
	\$	\$	\$
Ontario.....	509	981	2,025
British Columbia (incl. the Yukon and Northwest Territories).....	535	980	1,966
Alberta.....	509	923	1,750
Saskatchewan.....	449	818	1,749
Manitoba.....	455	875	1,721
Quebec.....	378	709	1,521
Nova Scotia.....	299	676	1,302
New Brunswick.....	277	609	1,167
Prince Edward Island.....	248	477	1,115
Newfoundland.....	...	...	1,009
PROVINCIAL AVERAGE.....	407	783	1,532

The most striking features of the above comparisons are the substantial percentage differences in income levels between the highest and lowest province and the fact that the rankings of the provinces in terms of income levels have hardly changed over a period of almost 40 years.

The Council concluded that efforts to promote more regionally balanced growth should be aimed at achieving a more rapid increase in the incomes of the lagging regions by methods that would not retard the development of the faster-growing areas of the country. In this way the economic growth of the national economy would be improved for the benefit of all regions in Canada. The Council said that, in order to accomplish this result, it is essential that regional development policies be directed to two basic objectives—the increase of

opportunities for high-productivity employment and the acceleration of programs that can make the maximum contribution to improvements in productivity generally in the region. The Council suggested the following guidelines for action:—

- (1) the avoidance, as far as possible, of subsidies merely to create temporary activity or to sustain indefinitely low-productivity industries and declining occupations;
- (2) encouragement of efficient agglomerations of activity—growth centres—within the different regions in order to achieve increasing economies of scale, larger markets and more useful pools of skills, and to avoid uneconomic scatter and dispersion;
- (3) the taking of decisions in respect of investments in social capital in accordance with an adequate consideration of the economic and social benefits to be obtained in relation to costs;
- (4) the recognition of the urgent need to make available additional financial resources to the governments of the lower-income regions and through the appropriate federal agencies in order to help break the vicious circle of low productivity, low incomes, low government revenues and low investments in growth-promoting services which are needed to improve the quality and effective utilization of the available human and material resources—in particular, education, training, research, health, transport facilities, resource and industrial development and the development of wider markets;
- (5) the necessity for close co-ordination in the formulation and implementation of consistent regional development policies and programs among all levels of government; this is particularly important in view of the wide range of programs and policies affecting regional development, both on the part of the provinces and through certain federal agencies such as the Atlantic Development Board, the Area Development Agency and the Agricultural and Rural Development Administration; and
- (6) the avoidance of self-defeating restrictive and divisive measures which interfere with the free flow of goods, capital, labour and enterprise between all the provinces; such measures must be avoided if we are to achieve simultaneously the twin goals of more satisfactory growth in every region and a rapid expansion of the national economy from which all would benefit.

The Council observed: "It is clear that the narrowing of inter-regional income disparities and the achievement of a more regionally balanced economic growth involve large, urgent, and especially challenging tasks. Many decades of experience have shown that these tasks cannot be accomplished by piecemeal expenditures, superficial expedients, unproductive works and mere transfers of income. The appropriate policies and programmes will need to be formulated within a long-run consistent framework and carried out with a continuing regard for the real and underlying problems involved."

Prosperity and Price Stability

The Canadian experience in the prolonged expansion that began in 1961 serves well to illustrate one of the major, recurrent difficulties faced by modern industrial nations in the postwar period—namely, that of achieving reasonable price stability in periods of high growth and rapid gains in employment. In general, the leading nations have demonstrated far better performance in this respect over the past 15 years than in the inter-war period. Much of this improvement can be attributed to a better public understanding of the broad forces at work within modern economies, and to better use of the policies capable of influencing these forces. In particular, there has been a growing appreciation of the importance of total supply and demand within economies and of the role of the "big levers" of fiscal and monetary policy in affecting these aggregates. It is realized that severe inflation is brought about fundamentally by excessive pressure of total demand for goods and services on the available supply, while heavy unemployment is the result of large relative deficiency in demand. It is known that the principal remedy for both of these extreme conditions is the operation of fiscal and monetary policy to restrain or stimulate the growth of total demand, as the case may be, and bring it back into a proper relationship with the growth of potential output.

In 1965, the Government of Canada requested the Economic Council to launch a broad examination into prices, costs, incomes and productivity, and their relationship to sustained economic growth. Specifically, the Council was requested to (1) study factors affecting price determination and the interrelation between movements in prices and costs

and levels of productivity and income; (2) to report on the relationship to sustained economic growth and to the achievement of high levels of employment and trade and rising standards of living; and (3) to review the policies and experiences of other countries in this field and their relevance for Canada. A substantial part of the Council's *Third Annual Review* was devoted to its report on these matters.

In attempting to reconcile the goals of high employment and reasonable price stability, many countries have adopted what are known as "incomes policies" or "wage-price guidelines". The ways in which these policies and other measures were developed and used in the United States, Britain, France, Sweden and the Netherlands were studied at length by the Council. In general, the Council found that these policies—which in many cases relate permissible price increases to recent levels of productivity—had some educational value but were seldom enforceable without the use or threatened use of government sanctions against parties who violate the guidelines. The effect of such policies was extremely difficult to measure. The Council's study indicated that once an economy is operating at high levels of demand and employment, wage and price increases tend to break through whatever guidelines have been established. Wage-price explosions have often followed periods of comparative stability attributed to incomes policies.

The Council concluded that this type of policy is not well suited to Canadian circumstances. An incomes policy would have the best chance of success in a unitary state, with strong central powers, a tradition of government intervention in the detailed functioning of the economy, and few constitutional impediments to government use of direct controls if necessary; private economic power would be relatively concentrated, and both union and management organizations would be strong and centralized. Obviously, Canada is far indeed from being such an environment. The threat of resort to direct wage and price controls as sanctions would be a hollow threat in Canada; the Federal Government has not now the power to institute such controls in major areas of the economy and in practice has been able to get such constitutional power only in wartime. In addition, regional differences hardly favour such a policy in Canada. Another factor weighing against such a policy is Canada's increasing economic interdependence. Price-increasing developments in international markets—where prices for a wide range of Canadian products are determined—might be bringing about rapid rises in profits and incomes in a number of primary exporting industries, and little could be done about it except to explain to the public why the situation must be tolerated.

The main thrust of the Council's recommendations, therefore, was along the lines of improving the use of basic monetary and fiscal policies, better planning of government expenditures and programs, lessening market rigidities, strengthening competitiveness, promoting greater mobility of resources, including manpower, removing inequities and enlarging public understanding of all these matters. Said the Council: "We feel that for all their troubles and imperfections—for all the static and turbulence which they periodically generate—the essentials of the institutions of free collective bargaining and of flexible and relatively decentralized determination of wages and prices should be preserved. In the long run, they seem likely to be more compatible with good all-round performance by the Canadian economy than any visible alternative."

The Council found that, in the past, Canada's use of fiscal and monetary policies has often been too closely geared to minor, short-term economic fluctuations. They could be used more effectively to stabilize larger economic fluctuations over longer periods—to moderate prolonged pressure against resources, or reduced persistent economic slack. Within this setting, the Council added, further conditions are vital—favourable international conditions, a correct setting of the exchange rate, and adequate complementary policies to improve the supply side of the Canadian economy. The Council found that up to now there has been a relative neglect in Canada of policies to increase supply, both in general and in areas of particular pressures.

One of the main problem areas detected by the Council was that of construction spending. In the postwar period, such spending has shown a special and unique potential for

aggravating or even inducing economic instabilities, with consequent repercussions on general costs and prices. Over the past 15 years demand for construction in Canada has swung widely—residential building from a 25-p.c. increase in one year to a 17-p.c. decline two years later, non-residential construction from plus 40 p.c. to minus 9 p.c. over two years, and government construction outlays from plus 32 p.c. to minus 7 p.c. from one year to the next. The Council said governments must be assigned a major contributing role as a destabilizing element in the over-all construction situation. In all three construction booms since 1950, outlays by all levels of government have reinforced and aggravated the excessive demand on the construction industry. Moreover, in the three recessions since 1950, government construction outlays have declined, adding to the weakness of demand in other sectors of the economy. In the 1963-66 period, demands on the construction industry pressed very hard on its supply capacity. The result was sharply higher wages in construction, strong increases in building materials prices, sharply higher bid prices on new contracts, increases in costs and prices on projects already under way, and fewer bids per construction contract. In such a situation, cost and price increases spill over into a broad front of labour and material resources.

The Council said that, to help stabilize construction demand, it would be appropriate to press for the development of business attitudes encouraging longer-term planning of business investment expenditures. However, the Council also strongly recommended steps to smooth out the growth of government-determined construction. This recommendation applied to all levels of government but the Council believed that the leadership must come from the Federal Government. The Council said that much of the need for government construction is foreseeable for some years ahead and there is room for better government planning and scheduling of such projects in relation to medium-term economic prospects and the likely demand-supply situation in the construction industry in key areas. Within the Federal Government itself, the Council saw a need for greater centralization of information and decision-making about construction expenditures.

The following were among the Council's other conclusions in this area:—

In the interests of better public education and information regarding current economic developments, including those in the field of prices, costs and incomes, steps should be taken to establish an independent institute of economic research along the lines of those already existing in many other countries. A major function of such an institute would be the publication of a regular bulletin containing analysis of short-term developments in the Canadian economy and other articles dealing with significant changes and problems.

A further examination is needed of problems of consumer protection and the exercise of market power in the Canadian economy. The emphasis should be on a consistent and continuous set of policies, based on well-founded and well-understood principles. [The Federal Government recently referred these matters to the Council for special study. The terms of reference are: "In the light of the government's long-term economic objectives, to study and advise regarding (a) the interests of the consumer particularly as they relate to the functions of the Department of the Registrar General (now the Department of Consumer and Corporate Affairs); (b) combines, mergers, monopolies and restraint of trade; (c) patents, trademarks, copyrights and registered industrial designs". The Council's work on this special study was well under way in the early part of 1967.]

Much more basic economic research needs to be done on problems relating to prices, costs, incomes and productivity in the Canadian economy. More adequate resources should be made available for these and other areas of economic research. In addition, there is a general and immediate need for improvements in price and other economic statistics. For this purpose, the Dominion Bureau of Statistics should be substantially strengthened.

In the light of underlying factors which have significantly altered the world and the Canadian food situation, and some of which are likely to continue for some time, it is more than ever important that effective measures be taken to increase productivity at all stages of food production and distribution.

Governments should take immediate steps to improve the discharge of their responsibilities as major employers and increasingly large-scale direct participants in the process of collective bargaining. The object should be to develop sound criteria and principles and to avoid disturbing repercussions on the climate of collective bargaining in the private sector of the economy.

Programs for productivity improvement and adequate measures for dealing with the manpower problems arising from technological and other change should be pressed ahead with all possible speed. The programs should operate both at the general and at the industry and plant level. (In early 1967, the Council published a set of principles to guide labour and management in their efforts to cope with the manpower implication of technological and other changes in industry [see below].)

The annual autumn meetings between federal and provincial finance ministers and treasurers should be developed into a major vehicle for the improvement of longer-term planning and the better co-ordination of expenditure programs and other fiscal matters by the three levels of government. A number of basic economic documents should be published prior to such meetings to serve not only as background for them but also as a basis for stimulating broader public debate about economic developments, problems and potentialities in advance of the formulation of annual budget policies. A standing committee on economic affairs from the Senate and the House of Commons should be established, one of the functions of which would be to hold annual hearings on economic issues arising out of the above-mentioned documentation and discussion.

Sources of Economic Growth

The Economic Council has emphasized repeatedly that productivity gains are the essence of economic growth, in the sense that they are the real source of improvement in the average living standards of people—that is, in average incomes. By productivity is meant the increase in the output of goods and services in relation to the resources required to produce them. Increases in productivity are generally traced to two basic kinds of influences:—

- (1) Improvements in the productive quality of the factors of production. (This would include rising levels of knowledge, education and skill in the labour force—including the managerial group—and better machinery and equipment, or higher quality natural resources.)
- (2) Improvements in the efficiency with which the productive factors are combined. (By this is meant, for example, a more efficient organization of the production process, increased specialization and larger scale of production, and shifts of manpower and capital from less-productive to more-productive lines of employment.)

The measurement and analysis of productivity still bristles with technical and conceptual difficulties. Further complications arise from the fact that the factors are frequently interrelated—advancing technology and better management and skills go hand in hand; increased scale and specialization require not only expanding markets but also flexibility and adjustability of economic resources. There is still much to learn about how these various factors act and interact, and it is extremely difficult to isolate the role and importance of any one of them. Despite these difficulties, the Council has devoted a large part of its research effort to these matters in the hope of improving public understanding of the real sources of growth in incomes and living standards.

Education and Economic Growth.—The basic role of education as a factor contributing to economic growth and rising living standards was stressed in the Council's *First Annual Review*, especially in the discussion of Canada's vital need for creating and maintaining an adequate supply of professional, technical, managerial and other highly skilled manpower as a basis for future growth. The *Second Annual Review* attempted a closer examination of education as a factor in growth. The Council recognized that its work in this difficult area was in the nature of a pioneering venture, but considered it useful to make some initial findings and conclusions:—

Average years of education per person in the male labour force rose rapidly and fairly steadily from 1910 to 1960 in the United States, with gains of 9 to 10 p.c. in each decade over that half-century. The Canadian increases were somewhat more uneven and were also consistently below those in the United States. Consequently, it is estimated that, although average years of schooling increased by less than 40 p.c. in Canada, the comparable increase in the United States was about 60 p.c. There has thus been a widening educational gap between the two countries. This gap appears to have widened particularly at the secondary school level in the inter-war years, and particularly at the university level in the postwar period. For example, in 1960 about 45 p.c. of the United States male labour force had four years of high school or more education, compared with only 24 p.c. in Canada in 1961.

The Council estimated that the Canada-U.S. differences in the average educational attainments of their respective labour forces account for approximately one third of the difference in productivity between the two countries. The Council's analysis also suggested a strong relationship between individual income levels and educational attainments. For example, in Canada the average income of those who have completed four to five years high school is more than one and a half times the average of those who have only elementary school education; and those who have university degrees have an average income which is more than two and a half times the average of those with only elementary school education, and more than twice the average of those who have only one to three years of high school.

A rough estimate of the 'profitability' of education can be made by calculating the extra income which on average is associated with a higher level of education, against the extra outlays and costs involved in obtaining such an education. On the basis of such calculations, it was estimated that returns on the 'human investment' in high school and university education in Canada are in the range of 15 p.c. to 20 p.c. a year. This is a somewhat higher rate of return than has been calculated for the United States.

The benefits from increased education, according to certain calculations and assumptions, are estimated to have accounted for a share in the general order of one quarter of the increase both in the average standard of living and in the productivity of Canadians from 1911 to 1961. Although this is a large contribution, it is apparently substantially lower than that indicated in comparable estimates for the United States.

Canada now faces a general shortage of manpower with higher educational attainments. The shortages extend from the high school level on up, and are most severe at the professional and university level. These deficiencies in the supply of skills constitute one of the major obstacles to be overcome in achieving a satisfactory rate of improvement in productivity and of economic growth in Canada.

The future benefits from increased efforts in education are very large, and the economic returns to the nation from increased investment in education are likely to exceed by a considerable margin those from most other types of expenditure. This economic gain is complementary to the contribution of education to the human, social and cultural development of individuals.

In the light of these findings, the Council recommended that the advancement of education at all levels be given a very high place in Canadian public policy, and that investment in education be accorded the highest rank in the scale of priorities. In particular, the Council urged that immediate attention be given to:—

- (1) The rapid and substantial expansion of post-secondary education in all parts of Canada. The aim should be to provide a ready opportunity for higher education to every qualified Canadian student so that financial obstacles will be eliminated as a barrier to higher education. A substantial increase in funds for research is a necessary feature of expanded and improved education at the higher levels.
- (2) The closing of the remaining gaps in school facilities and professional resources at the secondary school level so that such education is a real and practical possibility for all Canadian children.
- (3) The development and implementation of greatly expanded programs to upgrade and bring up to date the education and skill qualifications of the existing labour force, including professional workers and management. Continuing education and retraining must play an ever-increasing role in the future.
- (4) Social and other measures to reduce drop-outs in high school and thus achieve a much higher rate of high school completions.
- (5) Vigorous efforts through research, the use of new techniques, and the upgrading of the qualifications of teachers to improve the quality and methods of education.
- (6) Closer co-operation between business, labour and the educational system, along with improved counselling of students, regarding future manpower needs and the most effective ways of meeting these needs.

Scale and Specialization.—Whereas the over-all productivity in Canada has been estimated to be one fifth lower than in the United States, the Council in its *Fourth Annual Review* estimated that, in the manufacturing area alone, the productivity gap between the two countries appeared to be in the order of one third or more. This difference reflects in considerable part the way in which production is organized—diversification, mechanization, technology, efficient use of resources, management, morale, attitudes, etc. The measure should not be taken simply as a reflection on the energy, basic ability or enthusiasm of Canadians.

Many factors may influence the size of the productivity gap in manufacturing. One of these—but only one—is scale and specialization. The term “economies of scale” is rather loosely used and in some discussions seems to be used almost synonymously with “size of market”, “size of firm”, “size of plant” or “size of production runs”. The latter—the size of production runs and the degree of specialization or diversification of production—appears to be highly relevant. There is a general pattern of greater diversification of products and typically shorter production runs in Canadian plants. This involves frequent changes and interruptions in production and scheduling, and this in turn contributes to less-efficient use of both manpower and capital, and has a pervasive upward influence on all the basic categories of cost per unit of output. The Council believes that greater specialization would contribute to the lowering of costs of all major types—material, labour and overhead. It would make possible in many lines of production an increase in output with essentially the same quantity of labour and capital facilities. This would reduce labour and overhead costs per unit of output and permit similar economies in materials on the basis of comparable developments in firms supplying materials and components.

Why has not more specialization occurred in Canadian plants? Many factors may be involved—national commercial policies, business concepts and practices, institutional factors, uncertainty about the application of restrictive trade practices legislation, purchasing practices of provincial and municipal governments, etc. In the Economic Council's view, a major part of the answer lies in the existence of both Canadian and foreign tariffs which have either reduced incentives for, or inhibited, greater specialization. Canada's commercial policy was historically designed to a considerable extent to foster a wide diversity of manufacturing activity in Canada. Tariffs play a role in the higher cost of manufactured products in Canada, contribute in an important way to the development and maintenance of short runs and, in turn, increase the production and overhead costs of Canadian producers. The structure of tariffs also indirectly restricts the extent of scale and specialization.

Now that the Canadian economy has grown and developed in many ways, a re-examination of the effects of the tariff has become increasingly essential, the Council reported. The Council observed that it is sometimes suggested that one route toward increased scale and specialization would be to facilitate intercompany agreements to permit more specialized patterns of production between firms and longer production runs within the plants of various firms. But the Council said it should be recognized that industrial rationalization may reduce competition within Canada, especially in circumstances in which trade barriers protect producers from external competition and in which there is already a relatively high degree of industrial concentration in many lines of Canadian manufacturing. The Council's conclusion:—

“The route of tariff reduction for manufactured products is, in our judgment, the most promising of all routes towards increased specialization in Canada and the consequent narrowing of the existing gap in productivity in manufacturing between Canada and the United States. By ‘tariff reduction’ we mean negotiated reductions in both Canadian and foreign tariffs.”

The Urbanization of Canada

The urbanization of any nation is closely related to the structure and growth of its economy and to rising income levels. In Canada, almost three quarters of the population lives in cities and towns occupying less than a hundredth of the total area of the country. The Economic Council says this degree of urbanization will continue to increase. Between 1966 and 1980, Canada's urban population is projected to rise by almost 5,800,000 people to over 20,000,000. By 1980, about 81 p.c. of the total Canadian population (estimated to reach almost 25,000,000 by then) will be urban and some 60 p.c. will be concentrated in 29 large city complexes of 100,000 or over. The net population gain to these large cities between now and 1980 is expected to be 4,500,000—a number equal to the combined total for metro Toronto and metro Montreal in 1967. The population

growth of these two large metro areas combined is expected to be 2,500,000 in the period to 1980, so that taken together they may well total 7,000,000. Metro Vancouver is expected to go substantially over 1,000,000. Thus, by 1980, one out of three Canadians will live in one of these three large centres. A second group of six cities in the 500,000-1,000,000 population range—Winnipeg, Ottawa, Edmonton, Calgary, Hamilton and Quebec City—will have a combined population of about 3,600,000 by 1980. By then Canada is also likely to have about 20 cities in the 100,000-500,000 range, with a combined population of close to 3,500,000. Almost half of these 20 will lie along or close to the St. Lawrence River and lower Great Lakes. Thus, with the larger centres, they will contribute to the formation of an urban system stretching over a distance of about 600 miles.

This increasing urbanization in Canada has important implications for housing, social capital, municipal expenditures, fiscal capacity, and the many problems of big-city life including traffic congestion, air and water pollution, protection from crime, requirements for schools and recreational services, etc. In the Economic Council's view, this challenge calls for new and imaginative public policies involving all three levels of government, and new priorities in the allocation of resources. The Council, in fact, detects an "urgent need to update attitudes and approaches to over-all urban development and to certain commitments to resolving the complex and growing problems generated by such development." It adds:—

"It is understandable that traditions of deeply rooted attachment to the land and natural resources that have shaped our national identity should persist strongly in our national consciousness. But without attempting to decry these values in any way, it is clear that they are hardly adequate today. In the second century of Confederation, it is essential to recognize and accept the predominantly urban character of Canadian society, and to adopt policy approaches capable of dealing with the many new, pressing and difficult challenges."

Transportation.—The number of cars and trucks in Canada could increase by 60 p.c. to almost 11,000,000 by 1980, or one vehicle for every 2.3 persons. Projections suggest that 20 p.c. of Canadian families will own at least two cars. Large public investments will be needed to prevent traffic congestion from becoming ever more serious. The investment in urban expressways, arterial thoroughfares, collectors and rapid transit between now and 1980 could well exceed \$4,000,000,000 for centres of 100,000 or over. In the Council's judgment, "the problem of providing adequate urban transportation today ranks in economic importance with that of developing the national transcontinental transport system in the past".

Housing.—To meet the housing demand implied by its projections of new family and household formation, the Economic Council estimates that Canada will need an average of some 190,000 new housing units a year between 1966 and 1970—a four-year total of over 750,000 new units, with a heavy volume of completions concentrated in the latter part of the period. This housing demand is expected to continue to rise during the 1970s, reaching about 1,100,000 units in the first half of the decade and 1,300,000 to 1,400,000 units in the second half.

By the late 1970s about 90 p.c. of this housing construction will be in the cities. Further, with the increasing concentration of population in the largest of these urban complexes, new housing construction will shift increasingly to the metro areas. From an estimated volume of 630,000 units required in cities of 100,000 or over in 1966-70, it is anticipated that there will be a rise to about 800,000 in the first half of the 1970s and to somewhat above 1,000,000 in the second half. This implies that by 1980 the annual new housing demands of our 29 largest urban complexes will be as great as the entire national demand in 1970. If recent trends continue, by 1980 upwards of two thirds of this new construction in the large cities will take the form of apartments and other forms of multiple housing such as row-housing, duplexes and so-called town houses.

These estimates of new housing construction make allowance for a rising rate of replacement demand on the assumption of vigorous programs of renewal and redevelopment in the decaying areas of the larger and older cities. The 1961 Census did not reveal an extreme proportion of dilapidated housing and, in fact, the incidence of dwellings "in need of major repair" is rather less pronounced in the larger areas than for the country as a whole. Nevertheless, it appears that perhaps as many as 1,000,000 Canadians were housed as of 1967 in substandard dwellings of this kind, and that about one quarter of these were in the large cities. The Council observed:—

"With further rapid urbanization, the economic and social costs of poor housing and urban decay are bound to mount sharply unless long-range rehabilitative and preventive measures can be substantially widened and improved. Any acceleration of urban renewal, however, will clearly intensify the already pressing need for a great expansion in public housing. It will be essential to assure alternative and appropriate accommodation for the increasing numbers of people who may be displaced as a consequence of renewal projects. Successful and consistent development in both areas appear certain to require more comprehensive financial participation in total costs on the part of the senior governments, together with increased initiative, experimentation and integration in over-all planning by civic administrations."

Water Supply and Pollution Problems.—With the continued high rate of urban growth, the problems of adequate water supply and the disposal of domestic and industrial wastes are certain to grow more serious. For example, as the urban centre becomes larger it tends to use more water per resident. The average daily intake of water in Canada's 18 largest cities now is around 125 gal. per resident. It appears that by 1980 average daily consumption per person will rise to roughly 200 gal. Thus, it is estimated that, over the next 15 years, the largest cities must increase their water-supply capacity by some 1,500,000,000 gal. daily.

After use, approximately 80 p.c. of the urban intake of water for domestic and industrial purposes is discharged into the sewerage system. It is estimated that in 1960 only about 9,000,000 Canadians, or 75 p.c. of the urban population, were served by a sewerage system. Thus, a large volume of water intake in Canada is returned to streams and lakes in the form of raw or imperfectly treated sewage. Even where sewerage systems and treatment facilities exist, the prevalence of combined storm and sanitary sewers in many of our larger and older cities causes a considerable leakage of raw sewage during high-runoff periods.

The growing requirements for municipal water and sanitary facilities over the next 15 years will be added to a significant backlog of facilities in many areas. Since the 1930s, the capacity of these municipal services has grown at an annual rate of approximately 6 p.c.—or twice as fast as the growth in the urban population over the same period. If this relationship continues to apply over the next 15 years when 6,000,000 persons will be added to the urban population, it is estimated that the facilities will have to be doubled at an investment averaging roughly \$130,000,000 a year.

Air pollution problems will also mount. The major source of air pollution is the combustion of fuels such as oil, coal, natural gas and gasoline. For example, when measured in terms of weight, it is estimated that for every 100 tons of motor fuel used in combustion, almost 60 tons of carbon monoxide, hydro carbons and nitrogen oxide are discharged into the atmosphere. With the number of vehicles and traffic density increasing rapidly over the next 15 years, the prospective increase in the volume of pollutants from this source alone is massive. In some areas this air pollution threatens to be a serious health hazard. Although the relationship between air pollution and morbidity is difficult to establish, it has been estimated that in Canada 600,000 working days are lost each year as a result of chronic bronchitis and emphysema, attributable to impurities in the air.

Much remains to be learned before realistic and commonly accepted standards of air and water pollution can be established to guide a rational management or control policy, the Economic Council reported. Nevertheless, the Council regards the adoption of a set of standards as an essential first step in defining the goals for a policy of water

management or pollution control. This would imply the need for an extensive program of research that goes beyond the purely technical aspects to consider the social and economic implications of pollution as well.

Municipal Organization.—Although the 1961 Census showed Canada having only 18 metropolitan areas or large city complexes of 100,000 people or more, within these areas there were some 260 separate municipal government jurisdictions, together with an unknown number of semi-independent, single-purpose special authorities such as school boards, water boards, transit and utility commissions, and sewerage districts. In the opinion of the Council, it is doubtful whether this multiplicity of independent municipal units within a single metro economy is or can be effective in coping with the range and multitude of urban problems. The Council called for rapid modernization of local government structures, powers and administration, with the clear aim of building a structure of local government whose physical area of responsibility, extent of authority and political and administrative machinery are all in line with the range and scope of the problems to be dealt with. In many cases this would mean larger area boundaries and in others it would require more effective arrangements for inter-municipal co-operation and co-ordination. In the field of area-wide structure, the Council suggested that only strong provincial leadership is likely to be effective in the face of the attachment of local interests to entrenched fragmentation.

Municipal Finance.—Many municipalities in Canada have been caught in a squeeze as their own revenue sources—mainly the property tax—have failed to keep up with their spending requirements. In 1953-63 these taxes rose one and one half times as fast as personal income. The need to make annual decisions about whether to raise tax rates or assessment has some clear advantages for budget restraint and is in the interest of municipal taxpayers, but in the view of the Council it may create some built-in discrimination against services performed at the municipal level no matter how important they may be in relation to growth or the general welfare. In the large urban areas the squeeze will become tighter over the period to 1980 unless action is taken. The Economic Council said in part:—

“... there is now a widening gap between the expanding responsibilities and the revenues of the larger cities of the country. This is now a nation-wide problem, and it is clearly necessary either to shift further responsibilities and related costs to higher levels of government or to develop and support local revenue systems so that they are more closely related to both the benefits and burdens of an increasingly complex, urbanized society. In either case, the change can be accomplished only within a comprehensive fiscal planning framework covering all levels of government.”

Subsection 2.—The Atlantic Development Board

The nature and magnitude of the economic problems of the Atlantic region have been the subject of numerous studies over the years, and of frequent submissions to federal authorities and royal commissions. All of them indicate that, compared with the remainder of Canada, the economy of the Atlantic Provinces (New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland) has been characterized by significantly lower levels of per capita incomes, manpower utilization, productivity per worker, capital investment and public services. The Federal Government has responded to these persistent problems in several different ways, one of which was the establishment of the Atlantic Development Board by Act of Parliament in December 1962 (SC 1962-63, c. 10). The Act was amended in 1963 (SC 1963, c. 5) and 1966 (SC 1966-67, c. 31). The first amendment established an Atlantic Development Fund of \$100,000,000, and the second increased it to \$150,000,000. In addition to this Fund, the Board received \$55,000,000 (\$30,000,000 in 1965 and \$25,000,000 in 1967) in special Parliamentary appropriations to assist the four provinces in trunk highway improvements on a cost-sharing basis.

Functions of the Board are basically twofold: to undertake programs and projects aimed at stimulating the economic growth of the region; and to prepare, in consultation

with the Economic Council of Canada, an economic development plan for the region. The Board's staff, located in Ottawa and numbering 27 professional and 29 supporting personnel as at Mar. 31, 1967, reflects these functions, being organized into a Program Division and a Planning Division, under an Executive Director. The Board itself consists of 11 members resident in the Atlantic region, three from each of the larger provinces and two from Prince Edward Island. Board members, including the Chairman, are unpaid. The Board meets every two or three months at some centre in the region, and once annually in Ottawa.

One of the obvious factors responsible for the continuing lag in the economic growth of the region has been the inadequacy of its infrastructure, the basic services which are the foundation of every modern economy. Consequently, during its first four years the Board has concentrated upon infrastructure—making grants to the provinces for electric power development, sharing in the cost of building modern trunk highways, constructing industrial water systems, assisting in the development of industrial parks and sites, contributing to the cost of facilities for postgraduate and industrial research, and providing other basic services to industry.

The aims of the Board's planning activities are to identify the potential of each sector of the regional economy; to formulate policy recommendations for achieving this potential; to integrate the various sector studies into a single comprehensive and internally consistent plan; and to indicate the implications of the plan for employment, income and population. The plan will serve as a guideline for the Board in making its recommendations on development projects and will provide a framework to assist other federal agencies and provincial authorities in formulating long-term development policies and the priorities to be attached to specific programs. The private sector, too, should find the plan valuable by identifying areas for new investment.

In all its work, the Board acts in close co-operation with the provincial governments as well as with other federal departments and agencies. Although there is no formal procedure for bringing projects to the attention of the Board, the Board follows the practice of consulting the provincial governments concerned before taking action on specific projects; each government has designated officers to maintain liaison with the Board. Less formal contact is also maintained in many ways. Because of its unique interest in the Atlantic regional economy, the Board is called upon frequently to act as co-ordinator on matters involving several federal, provincial, municipal and private agencies.

By Mar. 31, 1967, projects costing an estimated \$98,714,000 had been approved and expenditures amounting to \$54,069,000 had been made against that amount, leaving outstanding commitments of \$44,645,000. The projects are as follows:—

<u>Project</u>	<u>Projects Approved</u>	<u>Funds Disbursed</u>
	\$	\$
POWER—		
Bay d'Espoir, Nfld.—hydro-electric power development.....	20,000,000	19,000,000
Mactaquac, N.B.—hydro-electric power development.....	20,000,000	16,980,878
Nova Scotia Power Commission—thermal power plant at Trenton	12,000,000	—
Power cable to link Prince Edward Island with mainland.....	4,300,000	25,000
Newfoundland and Labrador Power Commission—conversion to 60 cycles.....	4,000,000	3,055,164
Maccan to Amherst, N.S.—grant toward cost of power line.....	112,800	—
	60,412,800	39,061,042
TRANSPORTATION—		
Financial Assistance for Trunk Highway Systems—		
Province of New Brunswick.....	3,000,000	3,000,000
Province of Newfoundland.....	3,000,000	3,000,000
Province of Nova Scotia.....	3,000,000	1,362,762
Province of Prince Edward Island.....	1,000,000	1,000,000
Financial Assistance for Paving Access Roads to Selected Fishing Ports—		
Province of Prince Edward Island.....	675,000	410,817
	10,675,000	8,773,579

<u>Project</u>	<u>Projects Approved</u>	<u>Funds Disbursed</u>
	\$	\$
OTHER BASIC SERVICES TO INDUSTRY—		
Water supply and/or sewerage systems, etc.—		
Fortune, Harbour Grace, Port Union, Fermeuse and Isle aux Morts, Nfld.....	2,326,000	106,335
Trepassey, Bay de Verde, Burgeo, Gaultois, St. Anthony, Engles and Twillingate, Nfld.....	2,247,000	73,761
Mooring Cove, Nfld.....	1,112,117	62,896
Georgetown, P.E.I.....	850,000	749,686
Alder Point, N.S.....	833,000	9,046
Shelburne, N.S.....	802,000	11,319
Canso, N.S.....	775,420	679,052
Black's Harbour, Wellington and Beaver Harbour, N.B.....	690,000	—
Shippegan, N.B.....	498,546	463,960
Middle East Pubnico, N.S.....	385,000	8,970
Bonavista, Nfld.....	276,067	222,792
Woodstock, N.B.....	275,000	—
East River in Lunenburg County, N.S.....	250,000	—
Riverport, N.S.....	242,000	110,756
Lower East Pubnico, N.S.....	220,975	203,713
Ramea, Nfld.....	209,000	—
Lockeport, N.S.....	200,000	—
Montague, P.E.I.....	190,000	17,663
Port Mouton, N.S.....	154,286	126,837
Newtown, Nfld.....	150,000	85,806
Cheticamp, N.S.....	140,000	82,259
Hartland, N.B.....	125,000	30,000
Milltown, N.B.....	100,000	100,000
Grand Etang, N.S.....	46,629	45,656
North Rustico, P.E.I.....	20,000	—
Industrial Park Facilities—		
Point Edward, N.S.....	1,620,000	104,727
Dorchester Point, N.B.....	1,500,000	1,250,000
Stellarton, N.S.....	700,000	600,000
Lakeside, N.S.....	560,000	—
Saint John, N.B.....	450,000	—
Moncton, N.B.....	400,000	43,000
Amherst, N.S.....	350,000	268,027
Truro, N.S.....	200,000	113,760
Summerside, P.E.I.....	118,327	118,020
Abatement of industrial water pollution.....	2,000,000	4,200
Contribution to Nova Scotia for settling-in assistance to industry	1,200,000	—
Highway Long Harbour to Argentia-Placentia, Nfld.....	1,000,000	—
Trawler repair facilities—Marystown, Nfld.....	825,000	—
Boglands clearing—Burin Peninsula, Nfld.....	87,891	—
Assistance to Industrial Estates Ltd.—services for flour mill at Halifax.....	64,000	—
Repairs to marine railway—St. Anthony, Nfld.....	60,000	—
Causeway construction—Montague, P.E.I.....	40,000	40,000
Water pollution metering equipment.....	10,000	9,356
	<u>24,303,258</u>	<u>5,741,597</u>
RESEARCH FACILITIES—		
Financial Assistance for New Research Laboratories and Equipment—		
Halifax-Dartmouth, N.S.....	1,750,000	63,521
Fredericton, N.B.....	1,508,179	418,106
Provincial Dept. of Natural Resources, N.B.—geochemical laboratory.....	50,000	—
	<u>3,308,179</u>	<u>481,627</u>
SUNDRY EXPENDITURES.....	15,000	10,822
TOTALS.....	<u>98,714,237</u>	<u>54,068,667</u>

In addition, the following technical and economic surveys and studies were undertaken in 1966 and 1967, financed by Parliamentary appropriations:—

<u>Survey or Study</u>	<u>1966</u>	<u>1967</u>
	\$	\$
Study of the tourist industry in Newfoundland, New Brunswick and Nova Scotia.....	—	287,775
Study of potash exploration in Nova Scotia.....	66,576	199,225

<i>Survey or Study</i>	<i>1966</i>	<i>1967</i>
	\$	\$
Study of water supplies in Charlotte County and Caraquet areas of New Brunswick.....	—	85,956
Study of the structure and function of urban centres in the Atlantic Provinces.....	—	79,773
Study of water supplies in Alder Point, Isle Madame—St. Peters, Cape Sable Island and Digby Neck, N.S.....	—	72,778
Investigation of water supply in Bay St. George—Stephenville, Nfld..	—	39,793
Investigation of water supplies to fish processing plants and water resources survey at Trepassay, Nfld.....	79,990	38,649
Study of barriers to manpower mobility in economically lagging areas of Newfoundland and Labrador, Nova Scotia, New Brunswick and Quebec (cost-shared with Departments of Manpower and Immigration, and Forestry and Rural Development).....	—	35,000
Comprehensive study of forestry in the Atlantic Provinces.....	—	31,879
Development plan for Ernest Harmon Air Base, Stephenville, Nfld..	—	30,000
Industrial opportunities study in Cape Breton, N.S.....	2,000	30,000
Economic survey of Bell Island, Nfld.....	—	26,661
Study of the water resources in New Brunswick.....	—	21,163
Study of the comparative advantage of agricultural enterprises in Nova Scotia, New Brunswick and Prince Edward Island.....	—	21,000
Study and investigation of purification of salt water for use in fish processing plants.....	—	19,947
Study of water supplies and needs in Placentia, Nfld.....	—	19,681
Study of education as a factor in economic growth of Atlantic Provinces	—	17,037
Layout and design of proposed waterfront industrial park at site of former Point Edward Naval Base, Cape Breton, N.S.....	—	16,846
Study of industrial park needs of metropolitan area of St. John's, Nfld.	—	16,000
Study of industrial park needs of Edmundston, N.B.....	—	15,000
Investigation for a possible power site at Minas Basin, Bay of Fundy.	55,325	14,675
Study of agriculture in the Atlantic Provinces.....	—	14,026
Marketing study of selected steel products of Sydney, N.S.....	—	12,776
Study of groundwater resources in Nova Scotia.....	—	10,180
Study of industrial park needs at various centres in New Brunswick and Nova Scotia.....	37,500	10,000
Study of industrial park needs in Charlottetown, P.E.I.....	—	10,000
Study of potential industrial sites in Halifax Harbour area.....	—	10,000
Fees and expenses of special consultants.....	—	8,318
Study of manufacturing opportunities in the Atlantic region.....	—	7,700
Preliminary review of the tourist industry in Newfoundland.....	—	6,984
Study of structure of the economy of the Atlantic region.....	—	5,853
Survey of water resources at North Rustico, P.E.I.....	—	5,411
Study of inter-industry flow of goods and services in Atlantic Provinces	46,445	5,000
Public information consultant services.....	2,400	3,670
Study of Gander Airport as a major air cargo staging point and industrial centre.....	—	3,449
Bibliography of existing information on water resources in the Atlantic region.....	—	3,248
Consulting services of a professional librarian.....	—	3,171
Survey and pre-design of a sewerage system for industrial park Stellarton, N.S.....	—	3,150
Study of water supplies in Bay Bulls area of Newfoundland.....	—	2,913
Stream gauging survey of North West Brook near Trepassay, Nfld..	—	2,232
Office services.....	1,126	2,154
Study of development of Newfoundland economy since Confederation	—	2,000
Analysis of federal expenditures in the Atlantic Provinces.....	3,229	1,321
Computer services.....	—	581
Study of transportation network and urban systems of the Provinces of Nova Scotia and New Brunswick.....	3,000	500
Study of export trade of Atlantic Provinces.....	2,600	400
Study of demand and supply for hardwood in Atlantic Provinces....	42,110	—
Engineering investigations for deep water harbour, ore dock and ancillary facilities at Belledune Point, N.B. (cost shared with Department of Public Works).....	25,824	—
Study of transatlantic container shipping operations from ports of Halifax, N.S. and Saint John, N.B.....	20,736	—
Economic study of grain trade via Atlantic ports.....	15,000	—
Consultant services re power and natural resources.....	16,636	—
Water supply study at Come-by-Chance, Nfld.....	12,800	—
Study of transatlantic container shipping operations from ports of Provinces.....	9,600	—
Industrial location study.....	5,841	—
Investigation into disparity between per capita personal income in the Atlantic region and the rest of Canada.....	4,568	—
Beneficiation research program on silica sand.....	3,000	—
TOTALS.....	456,306	1,253,875

Subsection 3.—The Cape Breton Development Corporation

The Cape Breton Development Corporation was created by an Act of Parliament, assented to on July 7, 1967 (SC 1962-63, c. 10), and came into existence by proclamation on Oct. 1, 1967, as a proprietary Crown corporation. The Board was established to promote and assist the financing and development of industry on the Island, to provide employment outside the coal producing industry and broaden the base of the economy of the Island, and to acquire the interests of the major coal producer in the Sydney coalfield and reorganize and operate the mines with a view to the rationalization of coal production therefrom and the progressive withdrawal of the corporation from such production in accordance with progress made in providing other occupations for the employees concerned.

The Act provides for a Board of Directors, comprised of a chairman, a president and five other directors. It reports to Parliament through the Minister of Energy, Mines and Resources. (See also p. 145.)

Subsection 4.—Provincial Government Economic Planning Agencies

In a number of provinces, economic planning agencies have been set up or are in the formative stage. Only those that are currently active are described here.

The Nova Scotia Voluntary Planning Organization

During late 1961 and early 1962, the Government of the Province of Nova Scotia concluded that, within its limitations as a provincial government and in keeping with democratic traditions, it could increase the rate of economic growth by undertaking an economic planning program of a voluntary nature. Legislation creating the Voluntary Planning Board was passed in March 1963 by a unanimous vote of the Legislature. The Act stipulates that the Board shall consist of a chairman and a vice-chairman, the number of additional members and their terms of office to be determined by Order in Council. The Act also provides for the appointment of Sector and Segment Committees chosen from appropriate occupations by the Lieutenant-Governor in Council. A Sector is defined as "a primary portion or division of the economy" and a Segment is "a part or sub-division of a sector".

The general function of the Board is to assist and advise the Minister in the development and implementation of measures to increase the rate of economic growth of the province by means of voluntary economic planning. The specific duties outlined in the Act are to:—

- (a) co-ordinate the plans of the various Sectors of the economy and, based on these plans, produce a plan for the whole economy of the province for recommendation to the Minister as one which the Government might adopt;
- (b) collect, collate and disseminate information relative to the economy of the province;
- (c) advise the Government on provincial economic matters;
- (d) watch the performance of the Sectors in carrying out their plans and stimulate and encourage the carrying out of such plans;
- (e) envisage further plans that should be made and provide for continuity of planning for the future, both short- and long-range; and
- (f) conduct or arrange to be conducted such studies and investigations as the Lieutenant-Governor in Council or the Minister requests.

In addition, the Board serves as a liaison between government and people in all economic endeavours.

The Board in 1966 published a comprehensive over-all plan for the Nova Scotia economy to 1968 which includes the aims of economic planning and objectives for the first planning period. In 1967 it published an annual report and economic review which set out, to the extent possible, an assessment of the economy of the province in relation to the targets which were established in the over-all plan. Detailed Sector plans have been published for agriculture, forestry, tourism, transportation and communications, fisheries,

mining and construction. A special study has been made for the service industries and other studies have been undertaken in conjunction with various Sector plans and the over-all plan.

The Quebec Economic Advisory Council

An Economic Advisory Council was established by the Province of Quebec in 1943 for a three-year term but its mandate was not renewed after that period. In 1960 the Council was revived and under legislation passed by the Quebec Parliament in February 1961 it was replaced by the Quebec Economic Advisory Council (QEAC), the function of which was to prepare a plan for the economic organization of the Province of Quebec with a view to the full utilization of its material and human resources, and to advise the Government of the province, through its own volition or by request, on any economic matter. The Council, on Dec. 1, 1967, consisted of 15 "first" members appointed by the Lieutenant-Governor in Council, including practising lawyers and economists and representatives of financial labour, business, industry and university interests. In addition, there were five "associate" members, selected from among senior government officials, including the Chairman of the Quebec Hydro-Electric Power Commission, the Special Agricultural Adviser to the Executive Council and the Deputy Ministers of the Departments of Natural Resources, Education, and Industry and Commerce. The associate members attend the meetings of the Council and take part in the discussions but do not vote.

It was not possible for the Council to prepare the economic development plan for Quebec, as provided in its terms of reference, without adequate statistical data, planning and research facilities within the Departments and tools for the implementation of the main policies proposed in such a plan. However, owing largely if not exclusively to the existence of the Council and its recommendations, the Quebec Government, between 1961 and 1968, has acquired the tools necessary for responsible planning: Departments have established research and planning branches; studies and reports submitted by committees and workshops have led to a gradual understanding of the broad outlines of Quebec's economic structure; the QEAC, the Departments and various regional planning experiments have contributed to the training of a basic planning staff; co-ordinating bodies have been created; regional planning mechanisms and methods have been developed and tested; an outline of inter-industrial relationships has been drawn up; the territory of the province has been divided into ten administrative regions; and, finally, various instruments for the implementation of government policies have been provided, including the establishment of the General Investment Corporation, the nationalization of electricity, the periodic issue of Quebec Savings Bonds, and the establishment of the Quebec Pension Board, the Quebec Deposit and Investment Fund and the Quebec Mining Exploration Company, etc.

In its present form, the QEAC is considered to be a transitional body in the Quebec planning system. In December 1966, the Quebec Government announced its intention of setting up a planning system better suited to its needs. The QEAC would be replaced by a Planning Board responsible for preparing the Quebec plan, and by a Social and Economic Council which would be the advisory body to the Quebec Government. This would implement, in part at least, a QEAC recommendation that planning and advising should be the responsibility of separate organizations.

The Ontario Economic Council

The Ontario Economic Council was established by Order in Council on Feb. 1, 1962. The Council was conceived as a vehicle where representatives of agriculture, organized labour, commerce and industry, education, finance and of government could pool their knowledge and experience of economic affairs, commission research and formulate policy recommendations to the public and private sectors.

Nineteen Ontario citizens serve as members of the Council. Five of these represent a broad cross-section of business and industry, one each from the financial community and the Consumers' Association of Canada, three come from organized labour, three from

agriculture, and one from the provincial universities. One member comes from the senior ranks of the Ontario Civil Service. The remaining four are drawn from the Ontario Research Foundation, The Ontario Regional Development Council, The Hydro-Electric Power Commission of Ontario, and the Ontario Northland Railway. Each serves as an individual citizen without compensation. The Council meets monthly in Toronto.

Essentially, the Council operates as an advisory body to the Government of Ontario. Some of its findings are reported directly to the government; other reports and recommendations are published and distributed widely. Recent reports cover the fields of land use, education, labour, skill-training and plant location. Also published annually is an index of research projects carried on within provincial government agencies and departments and certain industrial companies operating in Ontario.

The Council shares the view of the Government of Ontario that the economy of Ontario is not an entity separate from Canada. For this reason the Council does not undertake separately for Ontario what the Economic Council of Canada has done and is doing for Canada as a whole. Projects are undertaken with the Economic Council of Canada on a co-operative basis and information is exchanged between the two Councils.

Another way in which the Ontario Economic Council pursues its responsibilities is through the work of committees. A total of some 40 citizens representing a broad cross-section of the Ontario community make up the following committees: Agriculture, Northern Development, Industrial Development, Industrial Research, and Tourist Industry.

A small permanent Council staff undertakes direct assignments and superintends the design and administration of projects assigned to others. Close contact with government departments avoids unnecessary duplication of effort. Research facilities, academic personnel and graduate students in Ontario universities have been used for certain projects which have included the professional services of members of the departments of economics, political science, geography and business administration in the Universities of Windsor, Western Ontario, Toronto, Waterloo, Queen's, York and Lakehead. From time to time the Council engages the professional services of private consulting firms.

The Manitoba Economic Consultative Board

The Manitoba Economic Consultative Board was established under the provisions of the Development Authority Act, 1963, and has been operative since the autumn of that year. It is composed of a chairman and ten members appointed by the Lieutenant-Governor in Council and is representative of the leading elements of the labour and business community. Chairmen of the Manitoba Design Institute, the Manitoba Research Council and the Manitoba Export Corporation serve in an *ex officio* capacity. The Board obtains its funds from the Manitoba Government; its budget in 1966-67 was about \$130,000.

The Board was established as an advisory body to the Manitoba Development Authority, the economic planning and co-ordinating committee of the Executive Council. It is charged with examining Manitoba's long-term prospects for growth, a report on which is published annually and widely distributed. Its staff is involved in a continuing program of research into manpower requirements and long-term economic problems.

Consultation with government, management, agriculture and labour on obstacles to more rapid growth is an integral part of the Board's task. Thus, working with various management groups in the province, the provision of adequate management education programs was examined recently. This led to the formation of the Manitoba Institute of Management Inc., a non-profit private corporation representative of management, educators, labour and government, to provide broad community support for a greatly strengthened program of management education in the province.

Whenever possible the Board co-operates with other provincial councils and with the Economic Council of Canada. During the summer of 1967 the Board, in co-operation with the Dominion Bureau of Statistics, sponsored a national seminar on input/output analysis.

CHAPTER XXV.—BANKING, OTHER COMMERCIAL FINANCE AND INSURANCE

CONSPECTUS

	PAGE		PAGE
Part I.—Banking and Other Commercial Finance.....	1111	Subsection 3. Finances of Companies Transacting Life Insurance under Federal Registration.....	1141
SECTION 1. BANKING.....	1111	Subsection 4. Life Insurance in Canada Transacted by Fraternal Benefit Societies.....	1143
Subsection 1. The Bank of Canada.....	1111	Subsection 5. Life Insurance Effected and in Force Outside Canada by Canadian Companies under Federal Registration.....	1145
Subsection 2. Currency.....	1116	SECTION 2. FIRE AND CASUALTY INSURANCE.....	1147
Subsection 3. The Chartered Banks.....	1119	Subsection 1. Fire Insurance Transacted in Canada by Companies under Federal Registration.....	1147
Subsection 4. Government and Other Banking Institutions.....	1126	Subsection 2. Fire Losses.....	1148
SECTION 2. OTHER COMMERCIAL FINANCE..	1128	Subsection 3. Casualty Insurance Transacted in Canada by Companies under Federal Registration.....	1150
Subsection 1. Trust and Mortgage Loan Companies.....	1128	Subsection 4. Finances of Companies Transacting Fire and Casualty Insurance under Federal Registration.....	1150
Subsection 2. Licensed Small Loans Companies and Licensed Money-Lenders..	1131	SECTION 3. GOVERNMENT INSURANCE.....	1152
Subsection 3. Foreign Exchange.....	1133	SECTION 4. PENSION PLANS.....	1154
Subsection 4. The Bond Market.....	1135		
Part II.—Insurance.....	1137		
SECTION 1. LIFE INSURANCE.....	1137		
Subsection 1. Summary of Life Insurance in Canada.....	1138		
Subsection 2. Operational Statistics for Life Insurance Transacted in Canada by Companies under Federal Registration.....	1138		

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

PART I.—BANKING AND OTHER COMMERCIAL FINANCE

Section 1.—Banking

Subsection 1.—The Bank of Canada*

Canada's central bank, the Bank of Canada, began operations on Mar. 11, 1935, under the terms of the Bank of Canada Act of 1934 which charged it with the responsibility for regulating "credit and currency in the best interests of the economic life of the nation", and conferred on it specific powers for discharging this responsibility. Through the exercise of these powers, the Bank broadly determines the combined total of the most common forms of Canadian money held by the community, chartered bank deposits and currency. The 1967 revision of the Bank of Canada Act contained a number of technical amendments designed to assist the Bank in discharging its responsibilities and account is taken of these changes in the following description of the Bank's operations.

The provisions of the Bank of Canada Act enable the central bank to determine the total amount of cash reserves available to the chartered banks as a group and thus to control the rate of expansion of the total assets and deposit liabilities of the banking system as a whole. The Bank Act, which regulates the operation of the chartered banks, requires that each chartered bank maintain a stipulated minimum average amount of cash reserves,

* Revised by the Research Department of the Bank of Canada.

calculated as a percentage of its Canadian dollar deposit liabilities, in the form of deposits at the Bank of Canada and holdings of Bank of Canada notes. (The minimum cash reserve requirement, which came into effect under the new legislation beginning Feb. 1, 1968, is 12 p.c. of demand deposits and 4 p.c. of other deposits.) The ability of the chartered banks as a group to expand their total assets and deposit liabilities is therefore limited by the total amount of cash reserves available. An increase in cash reserves will encourage the banks as a group to expand their total assets (which consist chiefly of loans and marketable securities) with a concomitant increase in their deposit liabilities; a decrease in cash reserves will bring about a decline in their total assets and deposit liabilities as they seek to restore their cash reserve ratios.

The chief method by which the Bank of Canada alters the level of cash reserves of the chartered banks, and through them the total of chartered bank deposits, is by purchases and sales of government securities. Payment by the central bank for the securities it purchases in the market adds to the cash reserves of the chartered banks as a group and puts them in a position to expand their assets and deposit liabilities. Conversely, payment to the central bank for securities it sells causes a reduction in the cash reserves of the chartered banks and requires them to reduce their holdings of assets and deposit liabilities.

The influence that the Bank of Canada exerts on credit conditions (i.e., on the interest cost and other terms of borrowing in financial markets) stems from its ability to limit the growth of bank credit and of the community's holdings of bank deposits and currency. The growth rate of the banking system is one of the factors exerting an important influence on the level of interest rates and other terms of access to credit prevailing in financial markets generally. Current credit conditions (and expectations about future trends in such conditions) in turn have an influence on business and household decisions to spend or to save. Many other factors also have an important effect on spending decisions, however, and the behaviour of the economy is subject as well to such influences as economic and financial developments abroad; the investment, price and wage policies of business firms in Canada; and the character of public policies at all levels of government with regard to expenditure and taxation. In using the powers at its disposal, the Bank attempts to help bring about credit conditions appropriate to both domestic and external conditions. Its operations must be based, not on any simple mechanical formula, but rather on continuous observation and appraisal of the constantly changing prospects for the economy as reflected in the complex pattern of economic and financial developments.

In a technical sense, the powers which the central bank possesses allow it to exert a strong influence over economic activity but, in practice, the range through which credit conditions can be permitted to vary is necessarily limited. Changes in credit conditions in Canada affect the position of some groups in the economy much more than that of others, and this uneven impact is bound to inhibit the central bank's operations. Furthermore, interest rates in Canada cannot change greatly in relation to those abroad without producing large capital movements which might complicate Canada's international payments position. These considerations suggest that monetary policy must be used in appropriate combination with other public economic policies in order to help achieve national economic goals.

Although the Bank of Canada has the power to determine the rate of growth of the combined total of currency and chartered bank deposits, it has no means of determining how much of this total is held in the form of currency and how much in the form of chartered bank deposits. This depends entirely on the preferences of the public, since bank deposits can be converted freely into notes and coin and back again.

Although the cash reserve system in Canada—which is similar to that in a number of other countries—enables the central bank to determine within broad limits the total amount of chartered bank assets and deposit liabilities, the Bank of Canada leaves the allocation of bank and other forms of credit to the private sector of the economy. Each

chartered bank is free to attempt to gain as large a share as possible of the total cash reserves available by competing for deposits and to decide what proportion of its funds to invest in particular kinds of securities and in loans to particular types of borrowers. The influence of the central bank—based in essence on its power to expand or contract chartered bank cash reserves through its market purchases or sales of securities—is both indirect and impersonal and is brought to bear on financial conditions generally through the chartered banks and the numerous inter-connected channels of the capital market.

The powers of the Bank are contained in the Bank of Canada Act, 1934 (RSC 1952, c. 13), revisions in which were made in 1936, 1938, 1954 and 1967. Some of these powers are outlined below.

The Bank may buy or sell securities issued or guaranteed by Canada or any province, short-term securities issued by Britain, treasury bills or other obligations of the United States and certain types of short-term commercial paper. The Industrial Development Bank Act authorizes the Bank to purchase securities issued by that institution. The Bank may buy or sell gold, silver, nickel and bronze coin, or any other coin, and gold and silver bullion as well as foreign exchange and may accept non-interest-bearing deposits from the Government of Canada, the government of any province, any chartered bank and any bank regulated by the Quebec Savings Bank Act. The Bank may open accounts in other central banks. It may accept deposits from other central banks, the International Monetary Fund, the International Bank for Reconstruction and Development, and any other official international financial organization, and it may pay interest on such deposits. The Bank does not accept deposits from individuals nor does it compete with the chartered banks in the commercial banking field. The Bank acts as the fiscal agent for the Government of Canada in the payment of interest and principal and generally in respect of the management of the public debt of Canada. The sole right to issue paper money for circulation in Canada is vested in the Bank.

The Bank of Canada may require the chartered banks to maintain, in addition to the legal minimum cash reserve requirement mentioned above, a secondary reserve which the Bank may vary within certain limits. The secondary reserve, which consists of cash reserves in excess of the minimum requirement, treasury bills and day-to-day loans to investment dealers, cannot be more than 6 p.c. of total deposits when first introduced nor can it exceed 12 p.c. In the event the Bank wishes to introduce or increase the secondary reserve requirement, one month's notice to the chartered banks is required; the amount of any increase in the requirement cannot exceed 1 p.c. per month. In the case of a lowering of the secondary reserve requirement, however, the percentage change in any one month is not restricted.

The Bank of Canada may make loans or advances for periods not exceeding six months to chartered banks, or to banks to which the Quebec Savings Bank Act applies, on the pledge of certain classes of securities. Loans or advances may be made under certain conditions and for limited periods to the Government of Canada or of any province. The Bank of Canada is required to make public at all times the minimum rate at which it is prepared to make loans or advances; this rate is known as the Bank Rate. From Nov. 1, 1956 until June 24, 1962, the Bank Rate was established weekly at a fixed margin of $\frac{1}{4}$ of 1 p.c. above the latest weekly average tender rate for 91-day treasury bills. Since June 24, 1962, the Bank Rate has been fixed from time to time as follows:—

<i>Date of Change</i>	<i>Per Cent per Annum</i>	<i>Date of Change</i>	<i>Per Cent per Annum</i>
June 24, 1962.....	6.00	Dec. 6, 1965.....	4.75
Sept. 7, 1962.....	5.50	Nov. 14, 1966.....	5.25
Oct. 12, 1962.....	5.00	Jan. 30, 1967.....	5.00
Nov. 13, 1962.....	4.00	Apr. 7, 1967.....	4.50
May 6, 1963.....	3.50	Sept. 27, 1967.....	5.00
Aug. 12, 1963.....	4.00	Nov. 20, 1967.....	6.00
Nov. 24, 1964.....	4.25	Jan. 22, 1968.....	7.00

Since June 24, 1962, the Money Market Rate—the rate at which the Bank of Canada is prepared to enter into purchase and resale agreements with money-market dealers—has been either $\frac{1}{4}$ of 1 p.c. above the average rate on 91-day treasury bills at the preceding weekly tender or the Bank Rate, whichever is lower.

The Bank of Canada is not required to maintain gold or foreign exchange reserves against its liabilities.

Prior to the 1967 amendment of the Bank of Canada Act, there existed some uncertainty about the exact relationship between the central bank and the Government. The changes in the Bank of Canada Act in 1967 were designed to clarify this matter. They provide for regular consultation between the Governor of the Bank and the Minister of Finance as well as for a formal procedure whereby, in the event of a disagreement between the Government and the Bank which cannot be resolved, the Government may, after further consultation has taken place, issue a directive to the Bank as to the monetary policy that it is to follow. Any such directive must be in writing, it must be in specific terms, and it must be applicable for a specified period. It must be published immediately in the *Canada Gazette* and tabled in Parliament. The amendment makes it clear that the Government must take the ultimate responsibility for monetary policy and it provides a mechanism for that purpose but the central bank is in no way relieved of its responsibility for monetary policy and its execution.

The Bank is under the management of a Board of Directors composed of a Governor, a Deputy Governor and twelve Directors. The Governor and Deputy Governor are appointed for terms of seven years each by the Directors, with the approval of the Governor in Council. The Directors are appointed by the Minister of Finance, with the approval of the Governor in Council, for terms of three years each. The Deputy Minister of Finance is a member of the Board but does not have the right to vote. There is an Executive Committee of the Board composed of the Governor, the Deputy Governor, two Directors and the Deputy Minister of Finance (who is without a vote); this Committee has the same powers as the Board except that its decisions must be submitted to the Board at its next meeting. In addition to the Deputy Governor who is a member of the Board, there may be one or more Deputy Governors appointed by the Board of Directors to perform such duties as are assigned by the Board.

The head office of the Bank is at Ottawa. It has agencies at Halifax, Saint John, Montreal, Ottawa, Toronto, Winnipeg, Regina, Calgary and Vancouver and is represented in St. John's and Charlottetown.

1.—Assets and Liabilities of the Bank of Canada, as at Dec. 31, 1963-67

Item	1963	1964	1965	1966	1967
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Assets					
Foreign exchange.....	42.4	97.6	28.3	55.2	90.9
Advances to chartered and savings banks.....	—	—	—	—	3.0
Investments—					
Treasury bills of Canada.....	465.6	478.7	608.1	409.1	538.3
Other securities issued or guaranteed by Canada maturing within 3 years.....	754.3	530.9	815.8	1,142.9	1,269.7
Other securities issued or guaranteed by Canada not maturing within 3 years.....	1,815.3	2,054.8	1,992.7	1,867.2	1,940.1
Bonds and debentures issued by Industrial Development Bank.....	150.6	176.5	200.7	239.8	270.2
Other securities.....	21.5	13.4	14.0	171.7	10.7
Industrial Development Bank capital stock.....	33.0	36.0	39.0	42.0	45.0
Bank premises.....	11.8	13.2	16.3	16.5	17.3
All other assets.....	150.4	240.8	240.9	262.3	226.3
Totals, Assets	3,444.9	3,641.9	3,955.8	4,206.8	4,411.6

1.—Assets and Liabilities of the Bank of Canada, as at Dec. 31, 1963-67—concluded

Item	1963	1964	1965	1966	1967
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Liabilities					
Capital paid up.....	5.0	5.0	5.0	5.0	5.0
Reserve Fund.....	25.0	25.0	25.0	25.0	25.0
Notes in Circulation—					
Held by chartered banks.....	418.4	355.1	382.7	438.1	484.6
All other.....	1,886.2	2,025.5	2,152.9	2,295.5	2,494.4
Deposits—					
Government of Canada.....	49.4	68.9	116.2	34.1	42.2
Chartered banks.....	811.4	882.1	1,034.2	1,111.3	1,062.0
Other.....	38.9	35.6	34.5	29.7	37.9
Foreign currency liabilities.....	52.8	44.9	30.8	36.9	34.8
All other liabilities.....	157.8	199.8	174.3	231.2	225.8
Totals, Liabilities.....	3,444.9	3,641.9	3,955.8	4,206.8	4,411.6

The Industrial Development Bank.—The Industrial Development Bank, a subsidiary of the Bank of Canada, was incorporated by Act of Parliament during 1944 and its banking operations commenced on Nov. 1, 1944. Its functions are described in the preamble to the Act as follows:—

“To promote the economic welfare of Canada by increasing the effectiveness of monetary action through ensuring the availability of credit to industrial enterprises which may reasonably be expected to prove successful if a high level of national income and employment is maintained, by supplementing the activities of other lenders and by providing capital assistance to industry with particular consideration to the financing problems of small enterprises.”

The President of the Industrial Development Bank is the Governor of the Bank of Canada and the Directors are the Directors of the Bank of Canada and the Deputy Ministers of Trade and Commerce and Industry. The authorized capital of the Bank is \$75,000,000 and it may also raise funds by the issue of bonds and debentures provided that its total direct liabilities and contingent liabilities in the form of guarantees and underwriting agreements do not exceed ten times the aggregate of the Bank's paid-up capital and Reserve Fund.

The Bank may extend financial assistance to industrial enterprises in Canada which, by definition in the Act, include any industry, trade or other business undertaking of any kind. With respect to such enterprises the Bank is empowered to lend money or guarantee loans and where an enterprise is a corporation the Bank may also enter into underwriting agreements with regard to any issue of stock, bonds or debentures; acquire stock, bonds or debentures from the issuing corporation or any person with whom the Bank has entered into an underwriting agreement; and acquire certificates issued by a trustee to finance the purchase of transportation equipment. The total amount of commitments of the Bank, in the form of loans, guarantees, etc., in excess of \$200,000 each, may not exceed \$200,000,000.

The Bank may accept any form of collateral security against its advances, including realty and chattel mortgages which constitute the usual kind of security taken. The Bank is intended to supplement the activities of other lending agencies, not to compete with them, and the Act of Incorporation provides that it should extend credit only when, in the Bank's opinion, credit or other financial resources would not otherwise be available on reasonable terms and conditions. Its lending takes the form of fixed-term capital loans rather than current operating loans. The Bank is specifically prohibited from engaging in the business of deposit banking. It has branch offices in the following cities: St. John's, Halifax, Saint John, Moncton, Rimouski, Quebec, Trois-Rivières, Montreal,

Sherbrooke, Ottawa, Toronto, Hamilton, Waterloo, London, Windsor, Sudbury, Port Arthur, Winnipeg, Regina, Saskatoon, Calgary, Edmonton, Kelowna, Vancouver, Victoria and Prince George.

2.—Assets and Liabilities of the Industrial Development Bank, as at Sept. 30, 1963-67

Item	1963	1964	1965	1966	1967
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Assets—					
Loans outstanding ¹	200.9	224.2	255.1	298.1	333.5
Other assets.....	3.7	5.2	6.9	7.0	7.3
Total, Assets.....	204.6	229.4	262.0	305.1	340.8
Liabilities—					
Capital and reserves.....	53.3	57.0	61.7	66.2	71.1
Bonds and debentures outstanding.....	147.6	168.1	195.4	232.8	262.5
Other liabilities.....	3.7	4.3	4.9	6.1	7.2
Totals, Liabilities.....	204.6	229.4	262.0	305.1	340.8
Loan Transactions—					
Disbursements.....	74.0	69.5	81.1	98.1	96.3
Repayments.....	38.2	46.2	50.2	55.2	61.1
Loans outstanding plus undistributed authorizations ¹	232.6	264.2	297.8	350.6	388.6
	No.	No.	No.	No.	No.
Customers on books.....	5,105	6,028	6,962	7,870	8,595

¹ Includes investments; the change in loans outstanding does not equal the difference between disbursements and repayments because of year-end accounting adjustments.

Subsection 2.—Currency

Note Circulation.—The development by which bank notes became the chief circulating medium in Canada prior to 1935 is described in the 1938 Year Book, pp. 900-905. Those features of the development which then became permanent are outlined in the 1941 Year Book, pp. 809-810.

When the Bank of Canada commenced operations in 1935 it assumed liability for Dominion notes outstanding. These were replaced in public circulation and partly replaced in cash reserves by the Bank's legal tender notes in denominations of \$1, \$2, \$5, \$10, \$20, \$50 and \$100. Deposits of chartered banks at the Bank of Canada completed the replacement of the old Dominion notes of \$1,000 to \$50,000 denomination that had previously been used as cash reserves. The chartered banks were required under the Bank Act of 1934 to reduce gradually the issue of their own bank notes during the years 1935-45 to an amount not in excess of 25 p.c. of their paid-up capital on Mar. 11, 1935. Bank of Canada notes thus replaced chartered bank notes as the issue of the latter was reduced. Further restrictions introduced by the 1944 revision of the Bank Act cancelled the right of chartered banks to issue or re-issue notes after Jan. 1, 1945, and in January 1950 the chartered banks' liability for such of their notes issued for circulation in Canada as then remained outstanding was transferred to the Bank of Canada in return for payment of a like sum to the Bank of Canada.

3.—Bank of Canada Note Liabilities, as at Dec. 31, 1963-67

Denomination	1963	1964	1965	1966	1967
	\$'000	\$'000	\$'000	\$'000	\$'000
Bank of Canada Notes—					
\$1.....	94,853	97,742	103,115	109,846	129,473
\$2.....	66,670	68,768	73,328	78,874	84,513
\$5.....	167,743	172,752	183,057	196,893	209,392
\$10.....	558,688	574,516	608,351	668,153	692,823
\$20.....	811,119	841,002	904,872	983,765	1,110,604
\$25.....	46	46	46	46	46
\$50.....	158,277	163,419	173,580	188,131	203,239
\$100.....	415,563	429,093	453,687	471,550	508,068
\$500.....	37	34	33	33	33
\$1,000.....	18,603	20,181	22,597	23,377	27,805
Totals.....	2,291,600	2,367,553	2,522,666	2,720,668	2,965,996
Note issues in process of retirement ¹	13,044	13,006	12,984	12,966	12,944
Totals, Bank of Canada Note Liabilities...	2,304,644	2,380,559	2,535,650	2,733,634	2,978,940
Held by—					
Chartered banks.....	418,405	355,086	382,703	438,090	484,566
Others.....	1,886,239	2,025,473	2,152,947	2,295,544	2,494,374

¹ Includes, in 1967, chartered banks' notes \$3,191,000, Dominion of Canada notes \$4,636,000, provincial notes \$28,000 and defunct banks' notes \$88,000; these amounts have changed little in recent years.

4.—Note Circulation in the Hands of the Public, as at Dec. 31, 1958-67

As at Dec. 31—	Bank of Canada Notes ¹	Per Capita	As at Dec. 31—	Bank of Canada Notes ¹	Per Capita
	\$	\$		\$	\$
1958.....	1,659,870,299	97.18	1963.....	1,886,238,792	99.82
1959.....	1,704,822,198	97.51	1964.....	2,025,473,300	105.30
1960.....	1,731,902,386	96.92	1965.....	2,152,947,110	110.01
1961.....	1,800,190,122	98.70	1966.....	2,295,543,656	115.24
1962.....	1,816,977,132	97.84	1967.....	2,978,939,617	146.00

¹ Total issue less notes held by chartered banks.

Coinage.*—Under an amendment to the Currency, Mint and Exchange Fund Act (RSC 1952, c. 315), which was submitted to Parliament in 1967, gold coins may be issued in the denomination of twenty dollars (nine tenths fine or millesimal fineness 900); subsidiary coins in denominations of one dollar, 50 cents, 25 cents, 10 cents (five tenths fine or millesimal fineness 500, or pure nickel); pure nickel five-cent coins; and bronze (copper, tin and zinc) one-cent coins. Provision is made for the temporary alteration of composition in the event of a shortage of prescribed metals. A tender of payment of money in coins is a legal tender in the case of gold coins issued under the authority of Sect. 4 of the Currency, Mint and Exchange Fund Act for the payment of any amount; in the case of silver coins for the payment of an amount up to \$10; nickel coins for payment up to \$5; and bronze coins up to 25 cents.

* Revised by the Master of the Royal Canadian Mint, Ottawa.

5.—Canadian Coin in Circulation, as at Dec. 31, 1957-66

NOTE.—The figures shown are of net issues of coin. Figures from 1901 are given in the corresponding table of previous Year Books beginning with the 1927-28 edition.

As at Dec. 31—	Silver	Nickel	Tombac ¹	Steel	Bronze	Total	Per Capita
	\$	\$	\$	\$	\$	\$	\$
1957.....	107,116,450	8,910,869	550,743	3,455,886	14,745,243	134,779,191	8.11
1958.....	115,120,076	9,289,481	549,630	3,455,062	15,322,156	143,736,405	8.42
1959.....	123,344,059	9,865,012	549,237	3,454,209	16,150,222	153,362,739	8.77
1960.....	136,710,958	11,599,263	549,090	3,452,876	16,895,953	169,208,140	9.47
1961.....	146,902,352	14,110,198	549,021	3,451,708	18,311,853	183,325,132	10.05
1962.....	162,928,707	16,433,088	549,009	3,450,676	20,595,543	203,957,023	10.98
1963.....	180,492,972	18,627,687	548,999	3,449,476	23,383,788	226,502,922	11.99
1964.....	206,551,965	22,522,116	548,996	3,448,547	28,009,356	261,080,980	13.57
1965.....	239,927,246	26,397,784	548,989	3,447,516	30,968,064	301,289,599	15.39
1966.....	263,556,870	27,052,019	548,987	3,446,704	33,106,994	327,711,574	16.37

¹ Tombac, a copper-zinc alloy, was used to conserve nickel for war purposes; no coins of this metal have been issued since 1944.

*The Royal Canadian Mint.**—The Ottawa Mint, established as a branch of the Royal Mint under the (Imperial) Coinage Act of 1870, was opened on Jan. 2, 1908. On Dec. 1, 1931, it became the Royal Canadian Mint and now operates as a branch of the Department of Finance.

The principal functions of the Mint are the execution of domestic and foreign coin; the refining of gold and silver; the acquisition of gold, silver and other metals, payments for which are made on the basis of Mint assays; the control, preparation and movement of gold and coin shipments; the safeguarding of Mint holdings of monetary metals, including coin and precious metals in various processing stages until finished and issued; the fabrication and engraving of dies for coinage, medals, signatures and official seals; the issue of coin sets to numismatists and the administration of various regulations issued under the terms and provisions of the Currency, Mint and Exchange Fund Act (RSC 1952, c. 315).

6.—Receipts of Gold Bullion at the Royal Canadian Mint and Bullion and Coinage Issued, 1957-66

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1946 edition.

Year	Gold Received	Gold Bullion Issued	Silver Coin Issued	Nickel Coin Issued	Bronze Coin Issued
	oz. t.	oz. t.	\$	\$	\$
1957.....	3,896,084	3,776,711	6,236,429	366,493	1,004,221
1958.....	3,958,459	4,088,706	8,044,753	379,616	578,274
1959.....	3,908,640	3,836,680	8,273,563	576,680	829,116
1960.....	4,024,626	4,014,771	13,432,251	1,735,707	748,101
1961.....	3,800,137	3,812,054	10,299,581	2,512,369	1,417,544
1962.....	3,488,974	3,520,406	16,114,240	2,324,212	2,284,925
1963.....	3,457,092	3,467,554	17,688,668	2,196,217	2,790,679
1964.....	3,188,868	3,173,573	26,153,154	3,895,746	4,626,963
1965.....	2,991,450	3,026,974	33,479,378	3,877,921	2,961,126
1966.....	2,676,402	2,631,400	23,722,162	655,948	2,140,711

Dollar Currency and Bank Deposits.—Bank of Canada statistics concerning currency and chartered bank deposits are given in Table 7.

* Revised by the Master of the Royal Canadian Mint, Ottawa.

7.—Canadian Dollar Currency and Chartered Bank Deposits, as at Dec. 31, 1958-67

(Millions of dollars)

As at Dec. 31—	Currency Outside Banks			Chartered Bank Deposits				Total Currency and Chartered Bank Deposits ¹		
	Notes	Coin	Total	Personal Savings Deposits	Government of Canada Deposits	Other Deposits ¹	Total ¹	Total Including Government Deposits	Held by General Public Including Personal Savings Deposits	Excluding Personal Savings Deposits
1958.....	1,660	121	1,781	6,844	319	4,303	11,466	13,247	12,927	6,084
1959.....	1,705	128	1,832	6,900	404	4,057	11,360	13,193	12,789	5,890
1960.....	1,732	144	1,876	7,215	510	4,313	12,037	13,914	13,404	6,189
1961.....	1,800	158	1,959	7,618	588	4,998	13,205	15,163	14,575	6,957
1962.....	1,817	177	1,994	7,932	564	5,193	13,689	15,683	15,119	7,187
1963.....	1,886	198	2,084	8,443	914	5,623	14,980	17,064	16,150	7,707
1964.....	2,025	229	2,254	8,935	696	6,164	15,795	18,049	17,353	8,418
1965.....	2,153	266	2,419	9,725	797	7,201	17,723	20,142	19,345	7,576
1966.....	2,296	293	2,589	10,248	919	7,741	18,908	21,497	20,578	10,330
1967.....	2,494	335	2,829	11,760	618	9,095	21,473	24,302	23,685	11,925

¹ Less total float, i.e., cheques and other items in transit.

Subsection 3.—The Chartered Banks

Canada's commercial banking system consists of nine privately owned banks. Eight have been in operation for many years and one was granted a charter in 1967.* At the end of December 1967, these banks operated 5,879 banking offices in Canada and 179 abroad. Canadian chartered banks engage in a very wide range of activities; they accept various types of deposits from the public including accounts payable on demand, both chequing and non-chequing, notice deposits and fixed-term deposits. The banks, in addition to holding a portfolio of securities, make loans under a wide variety of conditions for commercial, industrial, agricultural and consumer purposes. They also deal in foreign exchange, receive and pay out bank notes, provide safekeeping facilities and perform a variety of other services. For the most part, these operations are carried out in Canada by the extensive network of bank branches. The head offices of the banks confine their activities largely to general administration and policy-making functions, the management of the banks' investment portfolio and related matters. A detailed account of the branch banking system in Canada is given in the 1967 Year Book, pp. 1126-1128.

All banks operating in Canada are chartered (i.e., licensed) by Parliament under the terms of the Bank Act. The Act regulates certain internal aspects of bank operations such as the auditing of accounts, the issuing of stock, the setting aside of reserves and similar matters. In addition, the Bank Act regulates the banks' relationship with the public, the Government and the Bank of Canada.

It has been the practice in Canada to revise the Bank Act at approximately ten-year intervals. The most recent revision was enacted by Parliament early in 1967 and came into effect on May 1 of that year. The remainder of this subsection deals with the principal changes incorporated in the new Bank Act.

Acceptance by the Government of some of the main recommendations of the Royal Commission on Banking and Finance for increased competition and flexibility in the Canadian banking system was reflected in various new Bank Act provisions. These imposed certain restrictions on corporate and other relationships between banks and other financial

* The Bank of British Columbia was granted a charter by Parliament in December 1966 but as of Feb. 29, 1968 had not commenced operation.

institutions, while removing certain existing restrictions on the banks' operations which had placed them at some competitive disadvantage in recent years compared with their principal financial competitors.

In the past, various forms of intercorporate financial relationship between chartered banks and other financial enterprises had developed in Canada. In some instances this involved investment by banks in the shares of these enterprises, and vice versa; in others the relationship involved interlocking directorships. These practices are severely restricted under the terms of the new Bank Act, which limits bank ownership of any Canadian corporation to 10 p.c. of the voting shares and also provides that no more than one fifth of the directors of any company may become directors of a bank. In addition, after a two-year period a director of a trust or mortgage loan company which accepts deposits from the public may not be appointed or elected a director of a bank. In order to ensure that competition is not curtailed by agreements among the banks on interest rates to be paid on deposits or charged for loans, the new Bank Act prohibits the making of such agreements (except with the consent of the Minister of Finance). At the same time the provision that was formerly in the Bank Act limiting to 6 p.c. the interest rate which chartered banks could charge on loans, was abolished effective Jan. 1, 1968. Under the new Bank Act, the determination of interest rates on loans and deposits is left to market forces.

The new Bank Act also granted the banks new mortgage-lending powers. Banks may now charge current rates of interest on mortgage loans under the National Housing Act, and they may also make conventional residential mortgage loans for the first time. In the case of conventional residential mortgages, the amount of an individual mortgage cannot exceed 75 p.c. of the appraised value of the property. After 1973 the maximum amount of a bank's assets to be held in the form of conventional residential mortgages must not be more than 10 p.c. of the bank's Canadian dollar deposit liabilities plus debentures. In the interval, the percentage limitation will rise by 1 p.c. each fiscal year; it is 4 p.c. until Oct. 31, 1968 when it rises to 5 p.c. for the subsequent fiscal year and so on until the 10-p.c. maximum is reached.

The banks have also been given authority to issue their own debentures with an original term to maturity of at least five years; such securities are not subject to a reserve requirement and rank in priority after deposit liabilities. The amount of debentures that any bank may have outstanding is limited by restricting the increase per annum to 10 p.c. of the paid-up capital and rest fund and an upper limit of one half of the bank's paid-up capital and rest fund.

The amendments to the Bank Act in 1967 contained a number of revisions respecting the ownership of Canadian chartered banks. No individual or associated shareholders may vote more than 10 p.c. of a bank's total shares outstanding and, if more than 25 p.c. of a bank's shares are owned by non-residents, the total outstanding liabilities of the bank may not exceed twenty times its authorized capital stock.

The Bank Act also stipulates the minimum statutory cash reserve requirement that the chartered banks must observe. The minimum amount of Bank of Canada notes and deposits each bank must hold as cash reserves was changed in a series of monthly steps from 8 p.c. of all Canadian dollar deposits under the old Bank Act to 12 p.c. of demand deposits and 4 p.c. of other deposits as of February 1968. In addition, the Bank of Canada has been given stand-by powers to require the banks to hold a "secondary reserve" which would consist of cash in excess of their statutory requirements, holdings of treasury bills and day-to-day loans to investment dealers. When initially introduced, this secondary reserve cannot exceed 6 p.c. of a bank's deposit liabilities. Thereafter it may be increased in monthly steps of 1 p.c. to a maximum of 12 p.c. The Bank of Canada may reduce or remove such a secondary reserve at any time; effective April 1968, the required level was 7 p.c.

Branches of Chartered Banks.—Although there are fewer chartered banks now than at the beginning of the century, there has been a great increase in the number of

branch banking offices. As a result of amalgamations, the number of banks declined from 34 in 1901 to 10 in 1931, and remained at that figure until the incorporation of a new bank—The Mercantile Bank of Canada—in 1953 brought the total to 11. Since then the amalgamation in 1955 of the Bank of Toronto and the Dominion Bank as The Toronto-Dominion Bank, the amalgamation of Barclays Bank (Canada) with the Imperial Bank of Canada in 1956 and the amalgamation of the Canadian Bank of Commerce and the Imperial Bank of Canada as the Canadian Imperial Bank of Commerce on June 1, 1961 have reduced this number to eight. The Bank of British Columbia was granted a charter by Parliament in December 1966, increasing the number of chartered banks to nine.* The number of branches of chartered banks in each province periodically from 1902 to 1967 is given in Table 8.

* See footnote *, p. 1119.

8.—Branches of Chartered Banks, by Province, as at Dec. 31 for Certain Years 1902-1967

NOTE.—Figures for 1920 and subsequent years include sub-agencies in Canada receiving deposits for the banks employing them; there were 741 such sub-agencies at Dec. 31, 1967.

Province or Territory	1902	1905	1920	1926	1930	1940	1950	1960	1962	1963	1964	1965	1966	1967
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	—	—	—	—	—	—	39	71	81	88	90	104	107	106
Prince Edward Island.....	9	10	41	28	28	25	23	27	27	26	26	29	29	29
Nova Scotia.....	89	101	169	134	138	134	144	173	178	180	183	189	189	192
New Brunswick.....	35	49	121	101	102	97	100	113	118	121	123	126	132	133
Quebec.....	137	196	1,150	1,072	1,183	1,083	1,164	1,427	1,489	1,515	1,539	1,580	1,604	1,604
Ontario.....	349	549	1,586	1,326	1,409	1,208	1,257	1,785	1,916	1,967	2,022	2,055	2,078	2,107
Manitoba.....	52	95	349	224	239	162	165	234	248	255	261	271	279	285
Saskatchewan.....	30	87	591	427	447	233	238	296	299	303	308	317	321	327
Alberta.....	46	55	242	269	304	172	246	394	417	431	445	457	462	472
British Columbia.....	—	3	3	3	4	5	9	17	14	15	15	16	17	18
Yukon and N.W.T.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Canada.....	747	1,145	4,676	3,770	4,083	3,311	3,679	5,051	5,332	5,447	5,575	5,724	5,806	5,879

9.—Branches of Individual Canadian Chartered Banks, by Province, as at Dec. 31, 1967

NOTE.—This table includes 741 sub-agencies in Canada for receiving deposits.

Bank	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	No.	No.	No.	No.	No.	No.
Bank of Montreal.....	31	3	28	25	197	360
The Bank of Nova Scotia.....	42	8	54	41	66	287
Banque Canadienne Nationale.....	—	—	—	—	601	19
Banque Provinciale du Canada.....	—	2	—	18	310	23
Canadian Imperial Bank of Commerce.....	11	8	26	19	180	621
The Mercantile Bank of Canada.....	—	—	1	—	2	1
The Royal Bank of Canada.....	21	7	79	25	177	401
The Toronto-Dominion Bank.....	1	1	4	5	71	395
Totals.....	106	29	192	133	1,604	2,107
	Man.	Sask.	Alta.	B.C.	Y.T. and N.W.T.	Total
	No.	No.	No.	No.	No.	No.
Bank of Montreal.....	64	65	109	134	4	1,020
The Bank of Nova Scotia.....	23	34	63	76	1	695
Banque Canadienne Nationale.....	4	—	—	—	—	624
Banque Provinciale du Canada.....	—	—	—	—	—	353
Canadian Imperial Bank of Commerce.....	70	93	142	199	9	1,378
The Mercantile Bank of Canada.....	1	—	1	1	—	7
The Royal Bank of Canada.....	81	95	93	125	3	1,107
The Toronto-Dominion Bank.....	42	40	64	71	1	695
Totals.....	285	327	472	606	18	5,879

10.—Branches of Individual Canadian Chartered Banks Outside Canada, as at Dec. 31, 1967

NOTE.—This table does not include sub-agencies operating outside Canada, of which there were 33 in 1967.

Bank and Location	Number	Bank and Location	Number	Bank and Location	Number
Bank of Montreal—		Canadian Imperial Bank		The Royal Bank of	
Britain.....	2	of Commerce—		Canada—concl.	
United States.....	3	Britain.....	2	Guyana.....	6
Germany.....	6	United States.....	11	Haiti.....	1
		Antigua.....	1	Jamaica.....	11
The Bank of		Bahamas.....	3	Peru.....	1
Nova Scotia—		Barbados.....	1	Puerto Rico.....	6
Antigua.....	1	Cayman Islands.....	1	Trinidad.....	11
Bahamas.....	5	Grenada.....	1	Tobago.....	1
Grenada.....	1	Jamaica.....	8	United States.....	1
Trinidad.....	7	St. Vincent.....	1	Venezuela.....	6
Barbados.....	3	Trinidad.....	5	West Indies.....	11
Dominican Republic....	3				
England.....	3	The Royal Bank of		The Toronto-Dominion	
Scotland.....	1	Canada—		Bank—	
St. Lucia.....	1	Argentina.....	2	Britain.....	2
Puerto Rico.....	3	Bahamas.....	6	United States.....	1
U.S. Virgin Islands....	4	Brazil.....	3		
United States.....	1	British Honduras.....	4	Banque Canadienne	
Lebanon.....	1	Cayman Islands.....	1	Nationale—	
Netherlands.....	1	Colombia.....	5	France.....	1
Ireland.....	1	Dominican Republic....	11		
British Virgin Islands...	1	France.....	1		
Belgium.....	1	French West Indies....	2		
		Britain.....	2	Totals.....	179

Financial Statistics of the Chartered Banks.—The classification of chartered bank assets and liabilities was revised by the Bank of Canada Act, 1954, so that the statistical series given in Tables 11–15 begins with that year. Assets and liabilities are given in less detail for 1954–61 in the 1965 Year Book, p. 1043 and corresponding figures to those in Table 11 for 1962 and 1963 in the 1966 edition, p. 1066; month-end data are available from Dec. 31, 1954 to date in the Bank of Canada *Statistical Summary*.

11.—Statement of Chartered Bank Assets and Liabilities, as at Dec. 31, 1965–67

NOTE.—As a result of the 1967 amendments to the Bank Act, certain changes were made in the categories of assets and liabilities reported by the banks. Beginning in 1967, Government of Canada security holdings are classified as maturing within three or after three years rather than two years as in the past. In addition, three new liability items were added—Advances from Bank of Canada, Accumulated appropriations for losses, and Debentures issued and outstanding. For details, see the Bank of Canada *Statistical Summary*.

Assets and Liabilities	1965	1966	1967
	\$'000	\$'000	\$'000
Assets—			
Gold and coin in Canada.....	59,217	53,171	50,492
Gold and coin outside Canada.....	1,621	1,573	1,101
Notes of and deposits with Bank of Canada.....	1,416,943	1,549,348	1,546,584
Government and bank notes other than Canadian.....	62,409	61,805	59,076
Deposits with other banks in Canadian currency.....	11,062	16,042	14,067
Deposits with other banks in currencies other than Canadian.....	1,383,632	1,516,166	2,326,318
Cheques and other items in transit (net).....	774,510	1,017,076	1,018,925
Government of Canada treasury bills, at amortized value.....	1,357,313	1,547,861	1,725,128
Other Government of Canada direct and guaranteed securities maturing within two years, at amortized value.....	954,725	864,413	1,399,481 ¹
Government of Canada direct and guaranteed securities maturing after two years, at amortized value.....	1,422,530	1,473,002	1,504,573 ¹
Canadian provincial government direct and guaranteed securities, at amortized value.....	338,231	279,866	342,516
Canadian municipal and school corporation securities, not exceeding market value.....	337,799	327,202	347,557
Other Canadian securities, not exceeding market value.....	529,194	559,819	605,498
Securities other than Canadian, not exceeding market value.....	642,043	620,990	692,909
Mortgages and hypothecs insured under the National Housing Act 1954....	815,056	782,584	748,529
Day-to-day, call and short loans to investment dealers and brokers in Canadian currency, secured.....	460,770	565,304	640,659
Day-to-day, call and short loans to investment dealers and brokers in currencies other than Canadian, secured.....	719,444	877,659	743,757

¹ See headnote.

11.—Statement of Chartered Bank Assets and Liabilities, as at Dec. 31, 1965-67—concluded

Assets and Liabilities	1965	1966	1967
	\$'000	\$'000	\$'000
Assets—concluded			
Loans to Canadian provincial governments in Canadian currency.....	74,863	120,263	204,561
Loans to Canadian municipalities and school corporations in Canadian currency, less provision for estimated loss.....	532,246	627,173	603,180
Other current loans in Canadian currency, less provision for estimated loss.....	10,743,505	11,387,772	13,115,695
Other current loans in currencies other than Canadian, less provision for estimated loss.....	2,286,813	2,622,273	2,655,115
Non-current loans, less provision for estimated loss.....	1,490	1,564	1
Bank premises at cost, less amounts written off.....	311,613	315,110	331,633
Shares of and loans to corporations controlled by the bank.....	86,914	99,197	111,643
Customers' liability under acceptances, guarantees and letters of credit, as per contra.....	899,617	847,864	818,830
Other assets.....	8,551	14,853	40,785
Totals, Assets.....	25,232,111	28,149,950	31,648,612
Liabilities—			
Deposits by Government of Canada in Canadian currency.....	796,757	919,025	617,768
Deposits by Canadian provincial governments in Canadian currency.....	343,806	302,761	309,486
Deposits by other banks in Canadian currency.....	197,693	207,105	235,115
Deposits by other banks in currencies other than Canadian.....	1,260,056	1,271,010	1,528,584
Personal savings deposits payable after notice, in Canada, in Canadian currency.....	9,725,322	10,248,112	11,759,630
Other deposits payable after notice, in Canadian currency.....	2,043,859	2,345,663	3,255,088
Other deposits payable on demand, in Canadian currency.....	5,486,421	5,993,701	6,485,767
Other deposits in currencies other than Canadian.....	3,822,489	4,297,211	4,780,231
Advances from Bank of Canada.....	...	...	3,000 ¹
Acceptances, guarantees and letters of credit.....	899,617	847,864	818,830
Other liabilities.....	63,443	75,558	81,416
Accumulated appropriations for losses.....	357,329	376,528	424,058 ¹
Debentures issued and outstanding.....	...	...	40,000 ¹
Capital paid up.....	285,958	285,958	287,958
Rest account.....	936,000	963,700	1,009,900
Undivided profits at latest fiscal year-end.....	13,361	15,754	11,781
Totals, Liabilities.....	26,232,111	28,149,950	31,648,612

¹ See headnote.**12.—Canadian Cash Reserves, 1958-67**

NOTE.—Bank of Canada deposits are averages of the juridical days in the month shown; Bank of Canada notes and Canadian dollar deposits are averages of the four consecutive Wednesdays ending with the second last Wednesday in the previous month. Until June 1967 the required cash reserve ratio was 8 p.c. on both demand and notice deposits. For the next eight months the required minimum monthly average on demand deposits was increased by $\frac{1}{4}$ of 1 p.c. per month and that on notice deposits was decreased by $\frac{1}{4}$ of 1 p.c. Since February 1968 the required ratios have been 12 p.c. for demand deposits and 4 p.c. for notice deposits as prescribed under the Bank Act.

(Millions of dollars)

Year	Cash Reserves			Canadian Dollar Deposit Liabilities	Average Cash Reserve Ratio
	Bank of Canada Deposits	Bank of Canada Notes	Total		
1958.....	607	336	943	11,452	8.2
1959.....	648	351	999	12,187	8.2
1960.....	625	360	985	12,052	8.2
1961.....	673	367	1,040	12,804	8.1
1962.....	748	376	1,124	13,812	8.1
1963.....	775	394	1,169	14,400	8.1
1964.....	857	407	1,263	15,598	8.1
1965.....	965	427	1,392	17,186	8.1
1966.....	1,057	449	1,506	18,607	8.1
1967.....	1,110	487	1,597	20,668	7.7

13.—Classification of Chartered Bank Deposit Liabilities Payable to the Public in Canada in Canadian Currency, as at Sept. 30, 1966 and Apr. 30, 1967

Deposit Accounts of the Public of—	1966			1967 ¹		
	Personal Savings Deposit Accounts	Other Deposit Accounts of the Public	Total Deposit Accounts of the Public	Personal Savings Deposit Accounts	Other Deposit Accounts of the Public	Total Deposit Accounts of the Public
	No.	No.	No.	No.	No.	No.
Less than \$100.....	7,158,103	1,560,210	8,718,313	7,020,355	1,584,482	8,604,837
\$100 or over but less than \$1,000.....	3,993,666	1,199,303	5,192,969	4,126,397	1,257,284	5,383,681
\$1,000 or over but less than \$10,000..	2,132,781	478,727	2,611,508	2,255,748	514,604	2,770,352
\$10,000 or over but less than \$100,000.	134,632	91,865	226,497	146,079	99,559	245,638
\$100,000 or over.....	1,936	9,532	11,468	1,478	10,771	12,249
Totals, Deposits.....	13,421,118	3,339,637	16,760,755	13,550,057	3,466,700	17,016,757

¹ In 1967 the chartered banks began reporting this information on Apr. 30 instead of Sept. 30 as formerly.**14.—Classification of Chartered Bank Loans in Canadian Currency, as at Dec. 31, 1965-67**

Class of Loan	1965	1966	1967
	\$'000,000	\$'000,000	\$'000,000
General Loans—			
Personal.....	2,870.2	3,056.2	3,589.7
To individuals, fully secured by marketable bonds and stocks.....	556.0	522.1	536.3
Home improvement loans.....	73.4	75.8	76.6
To individuals, not elsewhere classified.....	2,240.8	2,458.3	2,976.7
Farmers—			
Farm Improvement Loans Act.....	344.2	399.1	432.6
Other farm loans.....	471.6	507.1	589.6
Industry.....	2,063.6	2,553.9	2,995.2
Chemical and rubber products.....	90.6	153.0	171.2
Electrical apparatus and supplies.....	112.4	171.0	258.5
Foods, beverages and tobacco.....	377.5	474.7	503.9
Forest products.....	285.3	306.2	346.2
Furniture.....	43.0	45.0	48.8
Iron and steel products.....	294.7	362.5	391.1
Mining and mine products.....	144.8	165.4	263.4
Petroleum and products.....	181.0	191.1	265.5
Textiles, leather and clothing.....	249.2	300.6	267.1
Transportation equipment.....	120.6	199.8	292.7
Other products.....	164.6	184.7	186.6
Merchandisers.....	1,281.2	1,266.0	1,288.4
Construction contractors.....	506.8	461.9	461.6
Public utilities, transportation and communications.....	280.7	352.5	471.1
Other business.....	1,640.4	1,536.8	1,702.2
Religious, educational, health and welfare institutions.....	292.3	321.4	301.2
Totals, General Loans.....	9,751.0	10,454.8	11,831.6
Other Loans—			
Provincial governments.....	59.4	101.4	204.6
Municipal governments and school districts.....	532.2	627.2	603.2
Stockbrokers.....	80.8	102.9	103.2
Investment dealers.....	132.0	188.2	231.7
Loans to finance the purchase of Canada Savings Bonds.....	200.5	227.6	222.3
Grain dealers and exporters.....	252.6	272.3	539.3
Instalment and other financial companies.....	540.9	434.6	431.8
Totals, Other Loans.....	1,798.4	1,954.2	2,336.0
Grand Totals, Loans in Canadian Currency.....	11,549.4	12,409.0	14,167.5

15.—Chartered Bank Revenue, Expenses, Shareholders' Equity and Accumulated Appropriations for Losses, as at Oct. 31, 1965-67

NOTE.—In 1967 the Bank Act schedule for the reporting of earnings and expenses was revised; figures for financial years 1965 and 1966 are shown on a comparable basis. In the period 1965-67 all banks ended their financial years on Oct. 31.

Item	1965	1966	1967
	\$'000,000	\$'000,000	\$'000,000
FOR FINANCIAL YEAR ENDED OCT. 31			
Revenue—			
Income from loans.....	886.4	1,042.8	1,172.6
Income from securities.....	238.1	265.4	305.9
Other operating income.....	160.6	187.8	237.1
Totals, Revenues.....	1,285.0	1,496.0	1,715.7
Expenses—			
Interest on deposits and bank debentures.....	524.7	630.8	741.9
Salaries, premiums, contributions and other staff benefits.....	335.8	380.1	426.1
Property expenses, including depreciation.....	95.1	107.1	116.6
Other operating expenses ²	126.7	134.7	155.5
Totals, Expenses³.....	1,082.3	1,252.7	1,440.0
Balance of Revenue ³	202.7	243.3	275.7
Less:			
Loss experience not included in other operating expenses.....	-13.9	21.8	-3.3
Appropriations for losses, net ⁴	2.2	17.2	50.9
Income taxes.....	91.6	102.7	111.3
Leaving for dividends and shareholders' equity.....	122.7	101.5	116.8
Dividends.....	67.2	71.4	75.1
Total additions to shareholders' equity.....	60.5	30.1	44.2
From above operations.....	55.5	30.1	41.7
From issue of new shares including premiums.....	5.0	- -	2.5
AS AT END OF FINANCIAL YEAR			
Shareholders' Equity—			
Undivided profits.....	13.4	15.8	11.8
Rest account.....	938.0	963.7	1,009.9
Capital paid up.....	286.0	286.0	288.0
Totals, Shareholders' Equity.....	1,235.3	1,265.4	1,309.6
Accumulated Appropriations for Losses.....	356.0	373.2	424.1

¹ Excluding realized profits and losses on securities held in investment account which are included in the item "Loss experience not included in other operating expenses". ² Includes provision for losses based on five-year average loss experience which in 1967 amounted to \$32,200,000 or 0.19 p.c. of related loans, and also includes taxes other than income taxes. ³ Before provision for income taxes and appropriations for losses other than those included in "Other operating expenses". ⁴ General and tax-paid appropriations for losses; net after any transfers out of accumulated appropriations for losses to undivided profits or rest account.

Cheque Payments.—A monthly record of the amount of cheques charged to customers' accounts at all chartered bank offices in 35 major clearing-house centres of Canada is available from 1924. Except for a minor setback in 1938, the value of cheques cashed shows a continuously upward trend from 1932, the low point of the depression. The value of cheques cashed in 35 clearing centres during 1966 amounted to a high of \$521,597,914,000, an increase of 9.5 p.c. over 1965. All five economic areas contributed to the increase, payments in the Atlantic Provinces rising 20.1 p.c., in British Columbia 13.1 p.c., in Quebec 11.9 p.c., in the Prairie Provinces 10.7 p.c. and in Ontario 6.6 p.c. Payments in the two leading centres reached all-time highs, Montreal advancing 12.3 p.c. and Toronto 5.7 p.c. over the previous year.

16.—Cheques Cashed at 35 Clearing-House Centres, 1965 and 1966

Clearing-House Centre	1965	1966	Clearing-House Centre	1965	1966
	\$'000	\$'000		\$'000	\$'000
Atlantic Provinces	9,667,242	11,606,699	Ontario—concluded		
Halifax.....	4,649,283	5,768,603	Sudbury.....	973,684	1,095,945
Moncton.....	1,035,278	1,075,397	Toronto.....	178,642,251	188,901,897
Saint John.....	1,835,482	2,077,876	Windsor.....	4,234,667	5,038,315
St. John's.....	2,147,199	2,684,823			
Quebec	144,586,126	161,890,942	Prairie Provinces	68,303,393	75,583,065
Montreal.....	132,793,252	149,105,805	Brandon.....	322,078	401,616
Quebec.....	10,599,128	11,549,732	Calgary.....	15,495,880	16,474,804
Sherbrooke.....	1,193,746	1,235,405	Edmonton.....	11,937,495	13,046,914
			Lethbridge.....	695,785	808,376
Ontario	219,777,367	234,460,197	Medicine Hat.....	323,256	371,788
Brantford.....	1,037,147	1,229,858	Moose Jaw.....	475,891	567,925
Chatham.....	932,891	997,126	Prince Albert.....	296,308	322,877
Cornwall.....	684,950	864,691	Regina.....	6,323,104	7,886,732
Fort William.....	678,252	767,934	Saskatoon.....	1,834,178	2,389,089
Hamilton.....	9,968,268	10,734,804	Winnipeg.....	30,599,418	33,312,945
Kingston.....	940,493	1,019,805			
Kitchener.....	2,322,531	2,764,606	British Columbia	33,646,743	38,057,010
London.....	7,062,318	7,234,046	New Westminster.....		
Ottawa.....	8,687,423	9,624,047	Vancouver.....	20,323,153	33,171,639
Peterborough.....	927,069	1,071,951	Victoria.....	4,323,590	4,885,371
St. Catharines.....	1,796,657	2,020,306			
Sarnia.....	888,766	1,094,866	Totals	475,980,871	521,597,914

Subsection 4.—Government and Other Banking Institutions

There are three distinct types of savings banks in Canada in addition to the savings departments of the chartered banks and of trust and loan companies: (1) the Post Office Savings Bank, in which deposits are a direct obligation of the Government of Canada; (2) Provincial Government savings banking institutions in Ontario and Alberta, where the depositor becomes a direct creditor of the province; and (3) two important savings banks in the Province of Quebec—the Montreal City and District Savings Bank and La Banque d'Économie de Québec—established under federal legislation and reporting monthly to the federal Department of Finance. In addition, co-operative credit unions encourage savings among low-income classes and extend small loans to their members.

Post Office Savings Bank.—The Post Office Savings Bank was established under the Post Office Act of 1867 (SC 1867, c. 10) to “enlarge the facilities now available for the deposit of small savings, to make the Post Office available for that purpose, and to give the direct security of the nation to every depositor for repayment of all money deposited by him together with the interest due thereon”. Branches of the Government of Canada's Savings Bank under the Department of Finance were gradually amalgamated with this Bank over a period of 50 years and the amalgamation was completed in March 1929. Summary financial statistics for the years ended Mar. 31, 1964-67 follow.

Item	1964	1965	1966	1967
	\$	\$	\$	\$
Deposits and interest.....	5,422,181	4,862,529	4,542,467	4,504,183
Deposits.....	4,813,402	4,283,950	3,995,127	3,987,952
Interest on deposits.....	608,779	578,579	547,340	516,231
Withdrawals.....	6,697,740	6,212,491	5,773,495	5,772,450
Balance on deposit.....	24,604,919	23,254,957	22,023,929	20,755,662

Provincial Government Savings Institutions.—Institutions for the deposit of savings are operated by the Provincial Governments of Ontario and Alberta.

Ontario.—The establishment of the Province of Ontario Savings Office was authorized by the Ontario Legislature at the 1921 Session and the first branches were opened in March 1922. Interest at the rate of $4\frac{1}{2}$ p.c. per annum, compounded half-yearly, is paid on accounts, and deposits are repayable on demand. Total deposits as of Mar. 31, 1967 were \$83,400,000 and the number of depositors was approximately 90,500; 21 branches are in operation throughout the province.

Alberta.—Savings deposits are accepted at 65 Province of Alberta Treasury Branches throughout the province. The total of these deposits at Mar. 31, 1967 was \$99,568,548, of which \$56,793,985 was payable on demand bearing interest at $3\frac{1}{2}$ p.c. per annum, \$20,985,031 was in term savings for terms of one to five years bearing interest at 4 p.c. to $5\frac{1}{2}$ p.c. per annum depending on the term, and \$21,789,532 was in term deposit receipts for terms of from 30 days to 365 days bearing interest at rates comparable to those paid on the open market.

Quebec Savings Banks.—The Montreal City and District Savings Bank, founded in 1846 and now operating under a charter of 1871 had, at Oct. 31, 1967, a paid-up capital and reserve of \$17,500,000, savings deposits of \$402,384,825, and total liabilities of \$436,146,451. Total assets amounted to \$436,146,451, including \$116,788,742 of federal, provincial, municipal and other securities.

La Banque d'Économie de Québec, founded in 1848 (as La Caisse d'Économie de Notre-Dame de Québec) under the auspices of the St. Vincent de Paul Society, incorporated by Act of the Canadian Legislature in 1855 and given a federal charter by SC 1871, c. 7, had, at Oct. 31, 1967, savings deposits of \$59,035,788 and a paid-up capital and reserve of \$3,500,000. Total liabilities amounted to \$65,575,821 and total assets to a like amount.

Credit Unions.—Credit unions are savings and loan associations organized and operated on a co-operative basis by people having a common bond of association such as a parish, club, lodge or labour union, that of employment in a plant, industry or department, or residence in a rural or well-defined urban community. The number of chartered credit unions in Canada at the end of 1965 was 4,939 of which 4,364 reported a total membership of 3,700,000 and assets of \$2,500,000,000. Quebec, with 2,000,000 members and assets of \$1,400,000,000, accounted for 55 p.c. of both total membership and total assets of all credit unions in Canada. Credit unions classified by bond of association on a percentage basis were: occupational 35, rural 33, urban 17 and other 15.

Canadian credit unions in the 1956-65 decade have continued the steady growth generally in evidence since credit unions were first organized in Quebec in the early part of the present century. Loans granted by credit unions increased by 17 p.c. in 1965 to reach \$1,078,000,000, passing the \$1,000,000,000-mark for the first time and being a 248-p.c. increase over the corresponding figure of \$310,000,000 in 1956. Assets at \$2,500,000,000 increased by 234 p.c. and savings at \$2,300,000,000 increased by 225 p.c. in the same comparison. Membership of 3,700,000 represented 18.6 p.c. of the total population, compared with 1,900,000 and 11.6 p.c., respectively, in 1956.

There were 28 central credit unions in 1965; these unions act as credit unions for the credit unions, mainly by accepting deposits of surplus funds from them and providing a source of funds for them to borrow when they cannot meet the demand for local loans. Most of the centrals also admit co-operatives as members. Total assets of the centrals increased 18 p.c. to \$357,000,000 and loans to members increased 43 p.c. to \$221,000,000 over the previous year. The Canadian Co-operative Credit Society serves as a central credit union for the provincial centrals and large co-operatives all across Canada. In 1965, membership consisted of four provincial centrals, four commercial co-operatives and two co-operative insurance companies.

17.—Credit Unions in Canada, 1956-65

Year	Credit Unions Chartered	Credit Unions Reporting	Members ¹	Assets ¹	Loans Granted to Members
	No.	No.	No.	\$'000	\$'000
1956.....	4,258	3,977	1,870,277	761,256	309,683
1957.....	4,349	4,044	2,059,835	852,219	344,791
1958.....	4,485	4,156	2,187,494	1,009,363	391,084
1959.....	4,570	4,202	2,360,047	1,157,995	472,688
1960.....	4,608	4,345	2,553,951	1,314,290	481,192
1961.....	4,682	4,348	2,740,251	1,506,167	578,663
1962.....	4,760	4,323	2,879,179	1,673,835	676,312
1963.....	4,809	4,336	3,123,735	1,920,341	771,700
1964.....	4,870	4,362	3,418,033	2,212,690	918,600
1965.....	4,939	4,364	3,677,291	2,541,791	1,078,139

¹ Reporting organizations only.**18.—Summary Statistics of Credit Unions, by Province, 1965**

Province	Credit Unions Chartered	Credit Unions Reporting	Members	Assets	Shares	Deposits	Loans Granted to Members
	No.	No.	No.	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	65	35	3,663	730	561	53	710
Prince Edward Island.....	38	35	9,008	2,709	2,174	91	1,666
Nova Scotia.....	186	178	84,718	29,650	22,767	1,354	25,293
New Brunswick.....	163	163	95,874	27,480	24,107	426	11,800
Quebec.....	1,659	1,530	2,006,526	1,393,512	186,912	1,115,559	418,200
Ontario.....	1,645	1,299	732,872	491,899	321,694	95,533	298,212
Manitoba.....	268	256	144,641	104,900	73,771	14,880	65,672
Saskatchewan.....	301	295	236,338	257,240	180,055	40,473	129,066
Alberta.....	311	298	115,104	63,880	49,475	5,501	38,610
British Columbia.....	303	275	248,547	169,791	117,583	22,419	88,910
Totals.....	4,939	4,364	3,677,291	2,541,791	979,099	1,296,289	1,078,139

Section 2.—Other Commercial Finance**Subsection 1.—Trust and Mortgage Loan Companies**

Trust and mortgage loan companies are registered with either the federal or provincial governments. They operate under the Loan and Trust Companies Acts (RSC 1952, c. 170 as amended in 1953, 1958, 1961 and 1964-65 and RSC 1952, c. 272 as amended in 1953, 1958, 1961 and 1964-65, respectively) or under corresponding provincial legislation.

The first mortgage loan companies were established in Ontario in the 1840s as co-operative associations to provide mortgage finance for their members. These associations evolved under legislation which was amended to give them permanent corporate status as mortgage-lending institutions. They obtained their funds principally by selling medium- and long-term debentures to the public but also had the power to open deposit accounts. Trust companies were first incorporated in Ontario in the 1880s. Although the trust company legislation prevented them from borrowing funds, they had the power to accept funds in guaranteed trust accounts and invest them in specified types of assets. This feature of trust company legislation is now general throughout Canada. The trust companies operate as financial intermediaries in the same way as mortgage loan companies,

chartered banks or savings and other financial institutions and are the only corporations in Canada with power to act as trustees for property interests and to conduct other fiduciary business. In this capacity they act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents in the management of estates of the living, as guardians of minor or incapable persons, as financial agents for municipalities and companies, as transfer agents and registrars for stock and bond issues, as trustees for bond issues and, where so appointed, as authorized trustees in bankruptcies.

Trust and mortgage loan companies were established and grew rapidly under provincial legislation in the late nineteenth and early twentieth centuries. Some companies were chartered by special Acts of Parliament but it was not until 1914 that federal legislation was passed and the Federal Government began to regulate trust and loan companies registered under its Acts. There are now nine federal trust companies and 13 federal loan companies. The Superintendent of Insurance examines these companies and also, by arrangement with the provinces, trust and loan companies incorporated in Nova Scotia and trust companies incorporated in New Brunswick and Manitoba. Companies must be licensed by each province in which they wish to operate.

Although there are many differences among the various federal and provincial Acts, the broad lines of the legislation are common. In their intermediary business the companies have the powers mentioned above to borrow or, in the case of trust companies, accept funds in guaranteed accounts subject to maximum permitted ratios of these funds to shareholders' equity. The funds may be invested in specified assets which include first mortgages on real property, government securities and the bonds and equity of corporations having established earnings records and the companies may grant loans on the security of such bonds and stocks. Trust and loan companies are not required to hold specified cash reserves, as are the chartered and savings banks, but there are broadly defined "liquid asset" requirements in a number of the Acts.

The trust and mortgage loan companies have been substantial members of the Canadian financial system since their early years. In the 1920s they held about one half of the private mortgage business in Canada but their growth rate fell off sharply because of the impact of the depression of the 1930s and World War II on the mortgage business. In the years since the War the re-emergence of strong demands for mortgage financing and the willingness of many trust and loan companies to compete aggressively for funds have led to sustained rapid expansion.

According to DBS figures, mortgage loan companies had assets before investment in subsidiaries of \$2,567,000,000 at the end of 1967 compared with \$2,375,000,000 a year earlier. Their holdings of mortgages amounted to \$2,067,000,000 or 81 p.c. of total assets. To finance their investments, these companies had borrowed \$1,653,000,000 or 64 p.c. of their total funds by the sale of debentures and \$395,000,000 from deposit accounts.

At the end of 1967, company and guaranteed funds of trust companies in the DBS survey were \$4,349,000,000 compared with \$3,924,000,000 a year earlier, an increase of 11 p.c. Trust companies, while not specializing in mortgage financing to the same extent as loan companies, in recent years have been putting a high proportion of their funds into these investments with the result that mortgages were 55 p.c. of their assets at the end of 1967 compared with 45 p.c. five years earlier. The trust companies had \$2,739,000,000 of term certificates outstanding and \$1,162,000,000 deposit accounts in December 1967, accounting for 90 p.c. of total funds. About one half of the demand or savings deposits were in chequable accounts. There is considerable variety among the trust companies and a few have developed a substantial short-term business, raising funds by issuing certificates for terms as short as thirty days and also operating as lenders in the money market. Nevertheless, it remains true that the main business of the trust companies in

their intermediary role, as of the mortgage loan companies, is to channel savings into mortgages and other long-term investments. In addition, trust companies, as of Dec. 31, 1966, had \$13,487,000,000 under administration in estate, trust and agency accounts.

More complete and up-to-date financial information may be found in quarterly balance sheet statements published by the DBS and the Bank of Canada, the reports of the Superintendent of Insurance on Loan and Trust Companies and the reports of provincial supervisory authorities.

19.—Operations of Federal and Provincial Trust Companies (Company and Guaranteed Funds), 1962-67

(Millions of dollars)

Item	1962	1963	1964	1965	1966	1967
Assets						
Demand deposits, incl. cash and foreign currency	54	71	86	99	88	94
Investments—						
Investments in Canadian Securities—						
Federal.....	299	318	385	387	438	455
Provincial.....	136	154	168	195	229	286
Municipal.....	94	114	138	126	127	112
Sales finance and commercial paper.....	122	135	183	208	195	150
Term deposits with chartered banks.....	..	..	..	..	72	170
Term deposits with trust and mortgage companies.....	..	..	..	..	18	14
Corporation bonds and debentures.....	140	170	198	219	240	289
Collateral loans.....	83	123	102	108	120	115
Mortgages—						
Loans under NHA.....	845	1,103	1,449	1,927	493	506
Conventional mortgage loans.....					1,677	1,905
Investments in Canadian preferred and common shares.....	63	65	67	75	83	85
Investments in foreign securities.....	6	4	6	5	14	25
Investments in subsidiary and affiliated companies.....	9	10	18	19	30	30
Interest, rents, and other receivables ¹.....	..	..	..	..	24	38
Real estate and equipment.....	31	36	43	46	46	52
Other assets.....	13	18	19	27	29	25
Totals, Assets¹.....	1,894	2,321	2,860	3,439	3,924	4,349
Liabilities						
Demand and Savings Deposits—						
Chequing.....	610	450	505	551	557	571
Non-chequing.....		360	543	564	539	591
Term Deposits—						
Under one year.....	1,094	1,299	1,551	2,006	612	625
One to six years.....					1,784	2,082
Over six years.....					30	32
Bank loans.....	2	2	2	4	6	7
Short-term loans and notes payable.....	7	6	5	37	15	19
Debts owing parent and affiliated companies.....	2	4	4	3	8	11
Interest, dividends, taxes and other payables ¹					36	59
Shareholders' Equity						
Capital paid-up.....	62	71	93	101	114	119
Investment reserves.....	102	115	135	153	69	76
Reserve fund.....					141	148
Net accruals, payables and retained earnings ¹	14	15	21	20	—	—
Retained earnings.....	..	..	..	..	12	11
Totals, Liabilities and Shareholders' Equity¹.....	1,894	2,321	2,860	3,439	3,924	4,349

¹ Prior to 1966, total assets exclude dividends, accrued interest and other receivables; these receivables are netted against the combined liability items, interest, dividends and other payables, and retained earnings.

20.—Operations of Federal and Provincial Mortgage Loan Companies, 1962-67

(Millions of dollars)

Item	1962	1963	1964	1965	1966	1967
Assets						
Demand deposits, incl. cash and foreign currency	28	20	63	54	32	38
Investments—						
Investments in Canadian Securities—						
Federal.....	93	107	120	117	125	133
Provincial.....	31	35	42	39	44	49
Municipal.....	8	8	11	10	10	11
Sales finance and commercial paper.....	4	4	8	2	1	11
Term deposits with chartered banks.....	..	..	..	..	5	17
Term deposits with trust and mortgage companies.....	..	..	..	..	5	5
Corporation bonds and debentures.....	14	25	26	31	24	28
Collateral loans.....	18	13	13	20	22	21
Mortgages—						
Loans under NHA.....	989	1,188	1,492	1,827	128	130
Conventional mortgage loans.....					1,820	1,937
Investments in Canadian preferred and common shares.....	38	52	56	55	58	76
Investments in foreign securities.....	6	4	4	4	4	5
Investments in subsidiary and affiliated companies.....	36	43	50	201 ¹	195	208
Interest, rents and other receivables ².....	..	..	..	..	22	24
Real estate and equipment.....	28	36	42	50	50	61
Other assets.....	7	8	10	15	16	21
Totals, Assets².....	1,300	1,544	1,936	2,426	2,570	2,775
Liabilities						
Demand and Savings Deposits—						
Chequing.....	205	139	155	162	165	151
Non-chequing.....		121	166	203	219	244
Term Deposits—						
Under one year.....	866	995	1,182	1,372	27	43
One to six years.....					834	962
Over six years.....					625	648
Bank loans.....	14	22	25	63	69	65
Short-term loans and notes payable.....	23	36	108	125	95	79
Debts owing parent and affiliated companies.....	13	16	46	207 ¹	176	179
Interest, dividends, taxes, and other payables ²					59	65
Shareholders' Equity						
Capital paid up.....	57	80	107	123	123	131
Investment reserves.....	78	87	93	111	30	36
Reserve fund.....					95	115
Net accruals, payables, and retained earnings ²	44	47	54	61	—	—
Retained earnings.....	..	..	..	..	53	57
Totals, Liabilities and Shareholders' Equity².....	1,300	1,544	1,936	2,426	2,570	2,775

¹ The increase over the previous year is caused by changes in inter-company accounts of affiliated companies.² Prior to 1966, total assets exclude dividends, accrued interest and other receivables; these receivables are netted against the combined liability items, interest, dividends and other payables and retained earnings.**Subsection 2.—Licensed Small Loans Companies and Licensed Money-Lenders***

Small loans companies and money-lenders are subject to the Small Loans Act (RSC 1952, c. 251, as amended by SC 1956, c. 46). This Act, first passed in 1939, sets maximum charges on personal cash loans not in excess of \$1,500 and is administered by the Department of Insurance. Lenders not licensed under the Act may not charge more than 1 p.c.

* Prepared by the Research Department of the Bank of Canada in co-operation with the Superintendent of Insurance for Canada.

per month. Those wishing to make small loans at higher rates must be licensed each year by the Minister of Finance under the Small Loans Act. The Act allows maximum rates, including charges of every kind, of 2 p.c. per month on unpaid balances not exceeding \$300, 1 p.c. per month on the portion of unpaid balances exceeding \$300 but not exceeding \$1,000 and one half of 1 p.c. on any remainder of the balance exceeding \$1,000. Loans in excess of \$1,500 are not regulated and lenders operating entirely above this limit and the larger loans of licensed lenders are thus exempt from the Act. Nor does the Act regulate charges for the instalment financing of sales. Prior to Jan. 1, 1957, the Act applied only to loans of \$500 or less and the maximum rate was 2 p.c. per month.

At the end of 1966, there were five small loans companies and 78 money-lenders licensed under the Act. Small loans companies are incorporated by special Acts of the Parliament of Canada, the first of them commencing business in 1928; the money-lenders include provincially incorporated companies and a few partnerships and individuals. Many of the small loans companies and money-lenders are affiliated with other financial institutions, principally Canadian sales finance companies and American finance or loan companies, and these subsidiary companies account for a high proportion of the total business of licensed lenders. The affiliations with sales finance companies reflect the close relationship between instalment financing and the consumer loan business. The Dominion Bureau of Statistics publishes quarterly balance sheets for sales finance and consumer loan companies as a whole and does not attempt to distinguish the two groups within the industry.*

The subsidiary small loans companies and money-lenders obtain most of their funds through their parent companies. A few of the larger companies have supplemented their bank loans by selling short-term paper in the market but the amount has been small compared with the short-term market borrowing of the sales finance companies. The smaller independent companies rely mainly on their shareholders and on borrowing from the chartered banks.

The annual figures of assets and liabilities given in Table 21 for 1963-66 are from the Department of Insurance report.*

* See *Business Financial Statistics* (Catalogue No. 61-006). More complete data on the business of licensed lenders are given in the *Report of the Superintendent of Insurance for Canada on Small Loans Companies and Money-Lenders* for the year ended Dec. 31, 1966 (Catalogue No. In 3-4/1965).

21.—Assets and Liabilities of Small Loans Companies and Money-Lenders, 1963-66

Assets and Liabilities	1963	1964	1965	1966
	\$	\$	\$	\$
Assets.....	735,660,587	797,271,316	899,510,592	995,273,267
Small loans balances.....	530,030,909	575,126,976	627,526,360	647,887,126
Balances, large loans and other contracts.....	187,336,161	203,473,461	238,469,695	311,984,099
Cash.....	7,999,302	6,546,620	10,602,031	10,432,107
Other.....	10,294,215	12,124,259	22,912,506	24,969,935
Liabilities.....	735,660,587	797,271,316	899,510,592	995,273,267
Borrowed money.....	598,496,241	647,138,005	728,802,326	799,454,035
Reserves for losses.....	14,962,448	17,895,299	19,843,853	24,380,272
Paid-up capital.....	48,358,329	49,044,243	51,749,884	50,687,274
Surplus paid in by shareholders.....	449,865	443,370	5,443,994	7,702,743
Earned surplus.....	34,409,797	37,671,201	38,817,315	46,246,460
Other.....	38,983,907	45,079,198	54,853,220	66,802,483

There was a decrease in 1966 compared with 1965 in the amount of business done by the combined companies. Small loans made to the public during the year numbered 1,493,212 as against 1,556,294 in 1965, a drop of about 4 p.c.; the amount of such loans decreased from \$904,651,318 to \$873,508,887 in the same comparison, also about 4 p.c. The average small loan made was about \$585 in 1966 and \$581 in 1965. At the end of the year, small loans outstanding numbered 1,287,748 for an amount of \$647,887,121, or an average of \$503 per loan; comparable figures for 1965 were 1,245,921, \$627,526,360 and \$504, respectively.

Gross profits of small loans companies and money-lenders before income taxes and before taking into account any increase or decrease in reserves for bad debts increased from \$27,521,974 in 1965 (\$16,633,701 being the profit on small loans and \$10,888,273 the profit on business other than small loans) to \$32,695,170 in 1966 (\$17,588,584 being the profit on small loans and \$15,106,586 the profit on business other than small loans).

Subsection 3.—Foreign Exchange

The dollar, established officially as the currency of the united provinces of Canada on Jan. 1, 1858, and extended to cover the New Dominion by the Uniform Currency Act of 1870, was defined as 15/73 of the British gold sovereign.* That is, the par rate of exchange between the dollar and the pound sterling was fixed at \$4.866, making the Canadian currency the equivalent of the United States dollar at parity. With minor variations between the import and export gold points representing the cost of shipping gold in either direction, the value of the pound sterling in Canada remained at this level until the outbreak of World War I. The United States dollar, on the other hand, was at a discount in terms of Canadian funds for the first eleven years after Confederation since it was not redeemable in gold from February 1862 to January 1879. On the basis of gold equivalents it would appear that the greatest monthly average discount on the United States dollar after Confederation was approximately 31 p.c., reached in August 1868. From 1879 to 1914 the dollars of the two countries remained at par, varying only within the gold points or under \$2 per thousand.

On the outbreak of World War I, Canada and Britain suspended the gold standard. For some weeks both the pound and the Canadian dollar rose to a premium in New York. Subsequently both fell back with the pound going to a slight discount. In January 1916 the pound was officially pegged at \$4.76 in American funds. This level was maintained with the help of funds realized by sales of United States securities owned by residents of Britain, by borrowing in the United States and, after the American entry into the War, by the United States Government financing Allied purchases in that country.

From 1915 to the end of 1917, fluctuations in the rate of exchange between the Canadian and United States dollars did not exceed 2 p.c. on either side of parity; the pound was stable in terms of United States dollars during this period. In 1918 the Canadian dollar began to weaken. After the pound was unpegged in 1919, the Canadian dollar declined further and in 1920 it fell to 82 cents in New York with sterling going as low as \$3.18.

By the latter half of 1922 the Canadian dollar had returned practically to par in New York. Despite some further weakness in sterling, the dollar remained close to that level during the next two years, averaging 98.04 and 98.73 cents in terms of the United States dollar in 1923 and 1924, respectively, and fluctuating between a discount of about 3.6 cents and a premium of approximately 0.4 cents. After Britain resumed gold payments in April 1925, the range of fluctuation of the Canadian dollar narrowed further. From

* The gold sovereign remained the standard for the Canadian dollar until 1910 when the currency was defined in terms of fine gold, making it the exact gold equivalent of the United States dollar. Both British and United States gold coins were, however, legal tender in Canada for this whole period.

Canada's return to the gold standard in the period July 1, 1926 to January 1929, the exchange rate remained within the gold points. The Canadian dollar then went to a slight discount in New York. With the exception of the period July to November 1930, when it went to a small premium in New York, the dollar remained below parity until Britain abandoned the gold standard in September 1931. After that month the pound sterling depreciated sharply and the Canadian dollar followed, reaching lows* in New York of 80.5 cents in December 1931 and 82.6 cents in April 1933.

Following the prohibition of gold exports in the latter month by the United States, the pound and the Canadian dollar strengthened rapidly in terms of American funds. By November 1933 both currencies had reached a premium in New York. Meanwhile, in a series of steps beginning with permitting the export of newly mined gold in August 1933, the United States moved toward resumption of the gold standard. As of Feb. 1, 1934, the United States Treasury undertook to buy all gold offered at \$35 per ounce. After that the exchange rate between the Canadian and United States dollars stabilized. Until the outbreak of war in 1939 much of the trading was conducted within one cent of parity although the Canadian dollar in New York did go as high as 103.6 cents (September 1934) and as low as 98.0 cents (September 1938).*

On the outbreak of World War II in September 1939, Britain and other sterling countries introduced foreign exchange control involving fixed buying and selling rates of \$4.02½ and \$4.03½, respectively, in terms of the United States dollar. The Canadian dollar in New York declined until Sept. 16, 1939, when the Government instituted foreign exchange control† in Canada and established fixed buying and selling rates of \$1.10 to \$1.11 for the U.S. dollar and \$4.43 to \$4.47 for sterling. As compared with previous months, the depreciation of the Canadian dollar in terms of United States funds was approximately half as great as that of the pound sterling.

Apart from a minor adjustment on Oct. 15, 1945, when selling rates for U.S. dollars and sterling were lowered to \$1.10½ and \$4.45, respectively, the official rates for the Canadian dollar remained unchanged until July 5, 1946. At that time the rate on the U.S. dollar was restored to par, with buying and selling rates for that currency of \$1.00 to \$1.00½ and for sterling \$4.02 to \$4.04. These rates continued in effect until Sept. 19, 1949 when, following a 30.5-p.c. reduction by Britain in the value of sterling to \$2.80 U.S. (an action which was paralleled in varying degrees by numerous other currencies), Canada returned to the former official rates of \$1.10 and \$1.10½ for United States funds. Sterling was quoted at \$3.07¼ and \$3.08¼ on the basis of the New York cross rate.

On Sept. 30, 1950, the Minister of Finance announced that official fixed foreign exchange rates which had been in effect at varying levels since 1939 would be withdrawn effective Oct. 2, and that the rate would henceforth be determined in the market for foreign exchange. This policy was carried out within the framework of exchange control until Dec. 14, 1951, at which time the Foreign Exchange Control regulations were revoked by the Governor in Council, terminating the period of exchange control that had prevailed in Canada since 1939. The Foreign Exchange Control Act was repealed in 1952. On May 2, 1962, the Minister of Finance announced that the Canadian dollar was being stabilized at a fixed par value of 92½ cents in terms of United States currency. This action was taken with the concurrence of the International Monetary Fund and, in accordance with the Articles of Agreement of that organization, the Government of Canada undertook to maintain the Canadian exchange rate within a margin of 1 p.c. on either side of the established par value. The movements of the U.S. dollar in Canadian funds from January 1958 to December 1967 are shown in Table 22.

*Noon quotations. Daily highs and lows may have exceeded these rates.

† The operations of the Foreign Exchange Control Board from the time of its establishment to the termination of exchange control in December 1951 are reviewed in the 1941 to 1952-53 editions of the Year Book.

22.—Price of the United States Dollar in Canada, by Month, 1958-67

NOTE.—Rates published by Bank of Canada. Noon average market rate for business days in period.
(Canadian cents per U.S. dollar)

Month	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
January.....	98.47	96.69	95.31	99.29	104.50	107.71	108.02	107.33	107.46	107.95
February.....	98.10	97.49	95.17	98.96	104.88	107.76	108.00	107.58	107.63	108.06
March.....	97.73	96.98	95.09	98.73	104.94	107.80	108.05	108.11	107.62	108.20
April.....	97.06	96.35	96.29	98.89	104.98	107.68	108.09	107.92	107.70	108.24
May.....	96.69	96.29	97.81	98.75	108.23	107.72	108.09	107.95	107.67	108.21
June.....	96.18	95.88	98.23	100.55	108.79	107.82	108.09	108.23	107.65	108.04
July.....	96.00	95.74	97.84	103.41	107.89	107.97	108.13	108.35	107.48	107.78
August.....	96.46	95.44	96.98	103.15	107.76	108.29	107.87	107.84	107.51	107.58
September.....	97.68	95.16	97.25	103.08	107.68	107.98	107.61	107.64	107.62	107.53
October.....	97.07	94.77	97.85	103.03	107.60	107.79	107.53	107.51	107.93	107.33
November.....	96.83	95.03	97.67	103.57	107.68	107.76	107.39	107.49	108.20	107.51
December.....	96.46	95.12	98.24	104.27	107.60	107.93	107.46	107.58	108.31	108.02
Annual Average.....	97.06	95.90	96.97	101.32	106.89	107.85	107.86	107.80	107.73	107.87

23.—Canada's Official Holdings of Gold and United States Dollars, as at Dec. 31, 1958-67

NOTE.—Holdings comprise gold, U.S. dollars and short-term securities of the U.S. Government held by the Exchange Fund Account, other government accounts and net holdings of the Bank of Canada.

(Millions of U.S. dollars)

Year	Gold	U.S. Dollars	Total	Year	Gold	U.S. Dollars	Total
1958.....	1,078.1	861.0	1,939.1	1963.....	817.2	1,777.8	2,595.0 ²
1959.....	959.6 ¹	909.6	1,869.2 ¹	1964.....	1,025.7	1,648.6	2,674.3 ²
1960.....	885.3	943.9	1,829.2	1965.....	1,150.8	1,513.7	2,664.5 ²
1961.....	946.2	1,109.6	2,055.8	1966.....	1,045.6	1,190.3	2,235.9 ²
1962.....	708.5	1,830.9	2,539.4 ²	1967.....	1,014.9	1,252.9	2,267.8 ²

¹ On Oct. 1, 1959, \$62,500,000 representing the gold portion of Canada's increased quota was transferred to the International Monetary Fund.

² Includes the proceeds of a drawing equivalent to U.S. \$300,000,000 which was made from the International Monetary Fund in June 1962 and which was outstanding at year-end. The amount of Canada's net obligation to the International Monetary Fund was \$275,700,000 at Dec. 31, 1962 and \$196,000,000 at Dec. 31, 1963.

³ Canada's net creditor position with the International Monetary Fund was \$60,000,000 at Dec. 31, 1964, \$215,900,000 at Dec. 31, 1965, \$263,500,000 at Dec. 31, 1966 and \$248,300,000 at Dec. 31, 1967.

Subsection 4.—The Bond Market*

Sales of Canadian Bonds.—Canadian borrowers, both government and corporate, raised a total of \$3,326,000,000 on the bond market in 1966, well above the \$1,976,000,000 raised in 1965. Although total savings were up in the later year, capital expenditures were up even more and the resulting demands for funds put heavy pressures on the financial markets. In contrast with 1965, when the Federal Government had net retirements of bonds, a total of \$430,000,000 was issued in 1966. As in previous years, the bulk of the net new issues were in the form of non-marketable bonds, mainly Canada Savings Bonds.

The Canada Pension Plan and the Quebec Pension Plan provided the provinces with a new substantial source of funds in 1966. During the year, the Canada Pension Plan purchased \$462,000,000 of special provincial bonds and the Quebec Pension Plan took in \$183,000,000, most of which was used for the purchase of provincial and municipal bonds. Sales of provincial government bonds, including sales to the Pension Plans, were twice as large in 1966 as in 1965.

Municipal government borrowing through the bond market was higher than in 1965 but about the same as the average for the previous five years. A substantial amount of money—almost \$100,000,000—was borrowed from the chartered banks.

* Prepared (February 1968) by the Co-ordinator, Financial Statistics, Dominion Bureau of Statistics, using data published by the Bank of Canada and data from the Budget Papers, June 1, 1967.

Investment outlays made by businesses in 1966 greatly exceeded their savings through retained income and depreciation. Net bond issues were \$908,000,000, which was higher than in any previous year except 1965. It is probable that bond issues would have been even larger had it not been for the scarcity and high price of funds. Interest rates on long-term bonds rose from 6.05 p.c. in December 1965 to 6.83 p.c. in December 1966. Issues of finance company paper and other short-term commercial paper totalled \$120,000,000 compared with a net retirement of \$282,000,000 in 1965, when the short-term money market was disturbed by the imposition of United States guidelines and the Atlantic Acceptance Corporation default on its obligations. Bank loans to business were up by about \$400,000,000 in 1966 and direct investment increased by \$660,000,000.

Bonds Outstanding.—Total government and business bonds outstanding at the end of 1966 amounted to \$51,686,000,000, an increase of 6 p.c. over 1965 and of 18 p.c. since 1963. In the 1963-66 period, the largest increase was one of 33 p.c. in corporate bonds outstanding, followed closely by an increase of 31 p.c. in provincial bonds. The total of outstanding bonds includes treasury bills, finance company paper and other short-term commercial paper; it does not include the term deposits, certificates and debentures of trust and mortgage loan companies, which amounted to almost \$4,000,000,000 at the end of 1966, nor does it include mortgage debt, which was estimated by Central Mortgage and Housing Corporation at over \$20,000,000,000 at the end of 1965.

24.—Net New Issues of Canadian Bonds, 1962-66, and Bonds Outstanding as at Dec. 31, 1962-66

NOTE.—Federal, provincial and municipal bonds include direct and guaranteed issues; corporation bonds include finance company and other short-term commercial paper; "other bonds" include bonds of religious and other institutions and a small amount of foreign bonds payable in Canadian dollars.

Item	1962	1963	1964	1965	1966
BONDS ISSUED					
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Government of Canada.....	801	827	457	—52	430
Treasury bills.....	280	75	—100	10	20
Marketable bonds.....	33	273	55	—395	57
Non-marketable bonds.....	483	479	502	333	353
Provincial Government.....	709	901	947	729	1,497
Municipal Government.....	230	390	440	271	328
Corporations.....	646	744	1,120	989	1,038
Finance company paper.....	144	166	259	—162	99
Other short-term paper.....	53	—43	46	—120	51
Bonds.....	444	621	815	1,271	908
Other bonds.....	10	30	11	39	33
Totals.....	2,396	2,892	2,975	1,976	3,326
BONDS OUTSTANDING, DEC. 31					
Government of Canada.....	19,448	20,276	20,733	20,681	21,111
Provincial Government.....	9,051	10,206	11,155	11,889	13,424
Municipal Government.....	4,363	4,753	5,193	5,464	5,793
Corporate ¹	7,963	8,224	9,042	10,129	10,945
Institutional.....	302	332	343	380	413
Totals.....	41,127	43,791	46,466	48,543	51,686

¹ Includes other commercial borrowers.

Distribution of Bond Holdings.—Table 25 shows the estimated distribution as at Dec. 31, 1966 of government and corporate bonds among the major purchasers of securities. Governments and the financial institutions specified in the table held one half of the total; of the remainder, non-residents held 20 p.c. and all other residents held 30 p.c. Of the 30 p.c., however, 12 p.c. was made up of holdings by persons of Canada Savings Bonds. The largest identified holders of bonds were chartered banks with 10 p.c. of the total, life insurance companies with 9 p.c. and trustee pension plans with 8 p.c.

25.—Estimated Distribution of Bond Holdings, as at Dec. 31, 1966

NOTE.—Federal, provincial and municipal bonds include direct and guaranteed issues; corporation bonds include finance company and other short-term commercial paper; "other bonds" include bonds of religious and other institutions and a small amount of foreign bonds payable in Canadian dollars.

Holder	Government of Canada Bonds	Provincial Government Bonds	Municipal Government Bonds	Corporate ¹ and Other Bonds	Total	P.C. of Total
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	
Bank of Canada.....	3,473	—	—	240	3,713	7.2
Chartered banks.....	3,890	280	327	560	5,057	9.8
Government of Canada.....	848	462	—	—	1,310	2.5
Provincial governments.....	540	1,930	293	252	3,015	5.8
Municipal governments.....	61	125	423	69	678	1.3
Life insurance companies.....	433	1,063	716	2,533	4,745	9.2
Other insurance companies.....	611	437	167	264	1,479	2.9
Quebec savings banks.....	25	60	29	32	146	0.3
Trust and loan companies.....	562	272	136	264	1,234	2.4
Trustee pension plans.....	328	2,218	680	1,096	4,322	8.4
All other resident.....	9,509	3,182	1,602	1,471	15,764	30.4
Non-resident.....	831	3,395	1,420	4,577	10,223	19.8
All Holders.....	21,111	13,424	5,793	11,358	51,686	100.0

¹ All short-term commercial borrowing is included in the "All other resident" item.

PART II.—INSURANCE*

Section 1.—Life Insurance

Life insurance in force in Canada with companies registered by the Federal Government (exclusive of fraternal benefit societies) amounted to \$76,824,000,000 at the end of 1966, an increase of \$7,168,000,000 during the year. The ratio of gain in business in force, expressed as a percentage of the amount in force at the beginning of the same year, was 10.3 p.c. in 1966.

Year	In Force at Beginning of Year	Increase in Force for the Year	Per- centage Gain
	\$'000,000	\$'000,000	
1930.....	6,157	335	5.4
1935.....	6,221	38	0.6
1940.....	6,776	200	2.9
1945.....	9,140	612	6.7
1950.....	14,409	1,337	9.3
1955.....	23,135	2,317	10.0
1960.....	40,874	3,775	9.2
1961.....	44,649	3,635	8.1
1962.....	48,284	3,949	8.2
1963.....	52,233	4,571	8.8
1964.....	56,804	5,868	10.3
1965.....	62,672	6,984	11.1
1966.....	69,656	7,168	10.3

* Material in this Part, except as otherwise indicated, was prepared under the direction of the Superintendent of Insurance for Canada, Ottawa. More detailed data are available in the annual reports of the Department of Insurance.

Subsection 1.—Summary of Life Insurance in Canada

Table 1 summarizes insurance premiums, claims, amounts of new policies effected and amounts of insurance in force on Dec. 31, 1966. These data are presented according to supervising government authorities for the companies and societies concerned, and according to nationality of company or society.

1.—Summary of Life Insurance in Canada according to Supervising Government Authority and by Nationality of Company or Society, 1966

Supervising Authority and Nationality of Company or Society	Insurance Premiums	Claims ¹	New Policies Effected	Insurance in Force, Dec. 31
	\$'000	\$'000	\$'000	\$'000
Supervising Authority				
Federally Registered	1,051,588	398,531	9,242,116	77,892,367
Companies.....	1,032,835	391,562	9,040,334	76,824,364
Societies.....	18,753	6,969	201,782	1,068,003
Provincially Licensed Only	86,581	33,631	1,052,244	5,774,328
Within Province of Incorporation—				
Companies.....	66,229	23,945	804,766	4,496,485
Societies.....	4,378	3,114	129,448	462,579
Outside Province of Incorporation—				
Companies.....	12,560	4,018	91,107	649,845
Societies.....	3,414	2,554	26,923	165,419
Totals	1,138,169	432,162	10,294,360	83,666,695
Nationality of Company or Society				
Canadian Companies—				
Federally registered.....	686,323	268,516	5,805,494	52,622,094
Provincially licensed only.....	78,789	27,963	895,873	5,146,330
Canadian Societies—				
Federally registered.....	12,341	4,717	164,930	793,799
Provincially licensed only.....	7,792	5,668	156,371	627,998
British Companies—				
Federally registered.....	54,743	10,615	659,762	3,521,138
Foreign Companies—				
Federally registered.....	291,770	112,431	2,575,079	20,681,132
Foreign Societies—				
Federally registered.....	6,412	2,252	36,853	274,204

¹ Death, disability and maturity under insurance contracts.

Subsection 2.—Operational Statistics for Life Insurance Transacted in Canada by Companies under Federal Registration

The amount of life insurance in force in Canada has shown an almost continuous advance year by year since the beginning of the record in 1869. The amount per capita of the estimated population has more than doubled since 1955.

The operations analysed in the tables of this Subsection, with the exception of Table 6, include only those of companies under federal registration and are exclusive of fraternal organizations and provincial licensees. However, companies under federal registration account for over 92 p.c. of the life insurance in force in Canada.

2.—Life Insurance Effected and in Force in Canada by Companies under Federal Registration, Decennially 1880-1960 and Annually 1961-66

NOTE.—Figures for 1889-1900 are given in the 1938 Year Book, p. 958; for 1901-39 in the 1942 edition, p. 855; for 1940-54 in the 1957-58 edition, p. 1168; and for 1955-59 in the 1967 edition, p. 1147. Statistics of fraternal society insurance, excluded here, are given at pp. 1143-1145.

Year	New Insurance Effected during Year	Insurance in Force Dec. 31				Insurance in Force per Capital ¹
		Canadian Companies	British Companies	Foreign Companies	Total	
	\$	\$	\$	\$	\$	\$
1880.....	13,906,887	37,838,518	19,789,863	33,643,745	91,272,126	21.45
1890.....	39,802,956	135,218,990	31,613,730	81,591,847	248,424,567	51.98
1900.....	67,729,115	267,151,086	39,485,344	124,433,416	431,069,846	81.32
1910.....	150,785,305	565,667,110	47,816,775	242,629,174	856,113,059	122.51
1920.....	630,110,900	1,664,348,605	76,883,090	915,793,798	2,657,025,493	310.55
1930.....	884,749,748	4,319,370,209	117,410,860	2,055,502,125	6,492,283,194	636.00
1940.....	590,205,536	4,609,213,977	145,603,299	2,220,505,184	6,975,322,460	612.89
1950.....	1,798,864,211	10,756,249,942	342,878,530	4,646,707,595	15,745,836,067	1,148.33
1960.....	5,692,887,763	30,418,380,871	1,554,844,168	12,675,749,459	44,648,974,498	2,498.54
1961.....	6,113,480,078	33,143,378,921	1,778,255,673	13,362,848,638	48,284,483,232	2,647.47
1962.....	6,027,069,888	35,907,032,820	2,040,700,311	14,285,636,913	52,233,370,044	2,810.81
1963.....	6,933,120,080	39,135,221,497	2,328,769,718	15,339,860,385	56,803,851,600	3,000.57
1964.....	7,802,504,767	43,209,488,534	2,706,336,254	16,756,485,863	62,672,310,651	3,248.95
1965.....	8,967,408,329	47,900,424,908	3,070,766,357	18,684,766,954	69,655,958,219	3,545.92
1966.....	9,040,333,979	52,622,094,411	3,521,137,968	20,681,132,082	76,824,364,461	3,838.34

¹ Based on official estimates of population.

3.—Summary of Life Insurance in Canada Transacted by Companies under Federal Registration, 1964-66

Item	1964	1965	1966
Canadian Companies—			
New policies effected during year..... No.	411,960	408,403	409,923
..... \$	5,067,071,852	5,868,615,959	5,805,493,952
Policies in force Dec. 31..... No.	5,400,676	5,471,733	5,536,126
..... \$	43,209,488,534	47,900,424,908	52,622,094,411
Policies ceased by death or maturity..... No.	57,488	62,166	62,395
..... \$	217,321,442	243,837,741	259,295,000
Insurance premiums..... \$	602,049,648	640,358,269	686,322,516
Claims incurred ¹ \$	224,797,465	252,523,784	268,516,114
British Companies—			
New policies effected during year..... No.	34,392	37,421	39,742
..... \$	493,267,178	523,734,283	659,761,522
Policies in force Dec. 31..... No.	308,152	323,461	339,026
..... \$	2,706,336,254	3,070,766,357	3,521,137,968
Policies ceased by death or maturity..... No.	2,339	2,429	2,319
..... \$	8,763,908	10,291,362	10,337,124
Insurance premiums..... \$	45,959,175	49,133,327	54,743,097
Claims incurred ¹ \$	8,955,056	10,468,423	10,614,922
Foreign Companies—			
New policies effected during year..... No.	263,553	239,997	239,280
..... \$	2,242,165,737	2,575,058,087	2,575,078,505
Policies in force Dec. 31..... No.	4,583,808	4,513,610	4,437,105
..... \$	16,756,485,863	18,684,766,954	20,681,132,082
Policies ceased by death or maturity..... No.	66,540	69,701	68,822
..... \$	91,192,722	101,030,110	109,037,796
Insurance premiums..... \$	260,029,173	272,656,430	291,769,583
Claims incurred ¹ \$	95,522,880	105,156,253	112,431,333

¹ Death, disability and maturity under insurance contracts.

3.—Summary of Life Insurance in Canada Transacted by Companies under Federal Registration, 1964-66—concluded

Item		1964	1965	1966
All Companies—				
New policies effected during year.....	No.	709,905	685,821	688,945
	\$	7,802,504,767	8,967,408,329	9,040,333,979
Policies in force Dec. 31.....	No.	10,292,636	10,308,804	10,312,257
	\$	62,672,310,651	69,655,958,219	76,824,364,461
Policies ceased by death or maturity.....	No.	126,367	134,296	133,536
	\$	317,278,072	355,159,213	378,669,920
Insurance premiums.....	\$	908,037,996	962,148,026	1,032,835,196
Claims incurred ¹	\$	329,275,401	368,148,460	391,562,369

¹ Death, disability and maturity under insurance contracts.

4.—Ordinary and Industrial Life Insurance Policies Effected and in Force in Canada by Companies under Federal Registration, 1964-66

Year, Type of Policy and Nationality of Company	New Policies Effected			Policies in Force Dec. 31		
	No.	Amount	Average Amount per Policy	No.	Amount	Average Amount per Policy
1964		\$	\$		\$	\$
Ordinary Policies—						
Canadian.....	408,595	3,518,198,772	8,610	5,262,296	26,502,689,639	5,036
British.....	34,265	404,705,850	11,811	282,554	2,318,879,284	8,207
Foreign.....	245,806	1,491,667,115	6,068	2,773,307	9,396,361,849	3,388
Industrial Policies—						
Canadian.....	—	—	—	115,323	63,157,245	548
British.....	—	—	—	24,881	2,986,453	120
Foreign.....	14,016	8,020,612	572	1,791,512	728,280,569	407
1965						
Ordinary Policies—						
Canadian.....	404,929	3,692,745,720	9,119	5,339,451	28,309,185,739	5,302
British.....	37,253	467,740,163	12,556	298,822	2,608,387,526	8,729
Foreign.....	225,399	1,769,815,012	7,852	2,816,398	10,338,608,829	3,671
Industrial Policies—						
Canadian.....	—	—	—	107,529	59,941,506	557
British.....	—	—	—	23,823	2,834,069	119
Foreign.....	10,618	6,151,513	579	1,677,608	694,414,184	414
1966						
Ordinary Policies—						
Canadian.....	406,893	3,950,297,199	9,708	5,410,244	30,188,492,997	5,580
British.....	39,567	523,664,018	13,235	315,351	2,920,731,302	9,262
Foreign.....	228,246	1,918,272,049	8,404	2,848,634	11,195,385,577	3,930
Industrial Policies—						
Canadian.....	—	—	—	100,208	56,923,263	568
British.....	—	—	—	22,771	2,677,936	118
Foreign.....	7,942	4,596,398	579	1,569,026	662,382,309	422

5.—Group Life Insurance Effectuated and in Force in Canada by Companies under Federal Registration, 1964-66

Year and Nationality of Company	Effectuated		In Force Dec. 31			
	Policies	Amount	Policies	Certificates	Amount	Average Amount per Certificate
	No.	\$	No.	No.	\$	\$
1964						
Canadian.....	3,365	1,548,873,080	23,057	13,328,721	16,643,641,650	1,249
British.....	127	88,561,328	717	65,238	384,470,517	5,893
Foreign.....	3,731	742,478,010	18,989	5,257,234	6,631,843,445	1,261
1965						
Canadian.....	3,474	2,175,870,239	24,753	14,215,563	19,531,297,663	1,374
British.....	168	55,994,120	816	339,855	459,544,762	1,352
Foreign.....	3,980	799,091,562	19,604	5,392,121	7,651,743,941	1,419
1966						
Canadian.....	3,030	1,855,196,753	25,674	15,045,710	22,376,678,151	1,487
British.....	175	136,097,504	904	371,761	597,728,730	1,608
Foreign.....	3,092	652,210,058	19,445	5,894,430	8,823,364,196	1,497

6.—Insurance Death Rates in Canada, 1964-66

Type of Insurer	1964			1965			1966		
	Policies Exposed to Risk	Policies Ter- minated by Death	Death Rate per 1,000	Policies Exposed to Risk	Policies Ter- minated by Death	Death Rate per 1,000	Policies Exposed to Risk	Policies Ter- minated by Death	Death Rate per 1,000
	No.	No.		No.	No.		No.	No.	
All companies, ordinary.....	8,259,604	46,082	5.6	8,410,880	48,932	5.8	8,538,984	49,068	5.7
All companies, industrial.....	2,012,567	28,406	14.1	1,884,620	28,564	15.2	1,764,530	28,096	15.9
Fraternal benefit societies.....	496,308	4,361	8.8	500,272	4,231	8.5	506,337	4,292	8.5
Totals.....	10,768,479	78,849	7.3	10,795,772	81,727	7.6	10,809,851	81,456	7.5

Subsection 3.—Finances of Companies Transacting Life Insurance under Federal Registration

The financial statistics in Tables 7 and 8 relate only to life insurance transacted by companies under federal registration. The figures for British and foreign companies apply to their assets, liabilities and operations in Canada only. On the other hand, the assets and liabilities, revenue and expenditure of Canadian companies are given for total business, including business arising outside of Canada as well as in Canada.

7.—Total Assets and Liabilities for Life Insurance of Canadian Companies under Federal Registration and Assets and Liabilities in Canada for Life Insurance of British and Foreign Companies under Federal Registration, 1964-66.

Assets and Liabilities	1964	1965	1966
	\$	\$	\$
Canadian Companies			
Total Assets¹.....	11,311,660,952	12,096,778,697	12,853,858,461
Bonds.....	4,873,843,798	4,995,956,689	5,055,295,120
Stocks.....	654,753,699	719,432,914	783,982,471
Mortgage loans on real estate.....	4,518,559,633	4,987,262,755	5,455,331,459
Agreements on sale of real estate.....	6,081,314	6,510,142	6,477,839
Real estate.....	327,023,761	368,008,580	410,050,542
Policy loans.....	518,703,162	546,450,107	633,249,139
Cash.....	90,646,318	109,753,225	86,033,933
Investment income, due and accrued.....	116,958,267	120,820,730	129,192,283
Outstanding insurance premiums and annuity considerations.....	76,750,520	79,375,563	84,566,767
Shares of company's capital stock (purchased under mutualization plan).....	10,650,000	6,850,000	4,550,000
Assets in segregated funds (at market values).....	60,158,388	94,283,633	133,119,114
Other assets.....	57,532,092	62,074,359	72,009,794
Total Liabilities.....	10,563,780,067	11,276,552,736	11,958,874,419
Actuarial reserve for contracts in force.....	8,712,667,941	9,279,205,174	9,790,254,978
Outstanding claims under contracts.....	103,896,900	117,030,376	127,661,662
Amounts on deposit pertaining to contracts.....	904,447,952	960,802,666	1,019,876,901
Segregated funds.....	60,158,388	94,283,633	133,119,114
Other liabilities.....	782,608,886	825,230,887	887,961,764
Surplus.....	729,996,726	800,590,482	873,904,653
Capital stock paid up.....	17,884,159	19,635,479	21,079,389
British Companies			
Assets in Canada².....	797,069,554	859,121,919	885,294,983
Bonds.....	392,759,401	386,116,676	373,113,238
Stocks.....	118,097,902	125,309,122	115,970,133
Mortgage loans on real estate.....	231,675,737	283,169,519	320,643,405
Real estate.....	20,519,232	23,544,833	25,795,235
Policy loans.....	13,873,562	15,454,409	18,594,994
Cash.....	2,257,172	1,578,373	1,989,235
Investment income, due and accrued.....	3,207,108	3,458,755	3,810,623
Outstanding insurance premiums and annuity considerations.....	2,674,149	2,699,208	2,796,692
Assets in segregated funds.....	727,733	3,052,105	4,532,706
Other assets.....	11,277,558	14,738,869	18,048,716
Liabilities in Canada.....	718,564,885	795,438,914	855,193,736
Actuarial reserve for contracts in force.....	694,584,509	771,209,384	823,066,690
Outstanding claims under contracts.....	4,806,445	5,287,396	5,269,899
Segregated funds.....	727,733	2,427,209	4,082,379
Other liabilities.....	18,446,198	16,514,925	22,774,768
Excess of assets over liabilities in Canada.....	78,504,669	63,683,005	30,101,247
Foreign Companies			
Assets in Canada².....	1,963,269,188	2,037,898,281	2,135,135,273
Bonds.....	1,178,234,994	1,174,236,864	1,158,620,762
Stocks.....	2,264,500	2,950,300	2,665,580
Mortgage loans on real estate.....	624,823,361	698,196,664	799,499,488
Real estate.....	20,058,414	18,957,589	19,307,312
Policy loans.....	87,328,259	90,259,149	96,383,860
Cash.....	16,274,953	17,040,399	19,100,226
Investment income, due and accrued.....	22,515,070	23,647,943	25,431,687
Outstanding insurance premiums and annuity considerations.....	9,791,840	10,442,969	12,082,623
Other assets.....	1,977,797	2,166,404	2,043,735
Liabilities in Canada.....	1,786,169,524	1,879,615,694	1,975,201,803
Actuarial reserve for contracts in force.....	1,619,055,795	1,693,024,707	1,765,260,204
Outstanding claims under contracts.....	22,900,164	26,993,406	30,026,761
Other liabilities.....	144,213,565	159,597,581	179,914,838
Excess of assets over liabilities in Canada.....	177,099,664	158,282,587	159,933,470

¹ At book values. The liabilities include a reserve equal to the amount, if any, by which the total book value of bonds, stocks and real estate exceeds the total market value (or amortized value where applicable), subject to the provisions of Subsect. (4) of Sect. 71 of the Canadian and British Insurance Companies Act.

² At market values.

8.—Total Revenue and Expenditure for Life Insurance Transacted by Canadian Companies under Federal Registration and Revenue and Expenditure in Canada for Life Insurance Transacted by British and Foreign Companies under Federal Registration, 1964-66.

Revenue and Expenditure	1964	1965	1966
	\$	\$	\$
Canadian Companies			
Total Revenue.....	1,897,486,817	2,029,030,933	2,140,991,180
Insurance premiums and annuity considerations.....	1,284,966,622	1,360,933,717	1,408,304,564
Investment income.....	578,944,182	633,463,342	688,988,222
Sundry items.....	33,576,013	34,633,874	43,698,394
Total Expenditure.....	1,807,125,304	1,931,232,466	2,024,969,262
Claims incurred.....	680,587,764	745,194,637	827,252,918
Normal increase in actuarial reserve.....	532,614,494	546,065,870	501,665,617
Taxes, licences and fees.....	34,037,100	38,773,947	41,567,354
Commissions and general expenses.....	287,634,170	304,891,500	329,274,266
Sundry items.....	88,254,270	95,730,238	107,006,701
Dividends to policyholders.....	165,028,870	182,799,181	196,959,241
Increase in provision for profits to policyholders.....	18,968,636	17,777,093	21,243,165
Analysis of Increase in Surplus—			
Excess of revenue over expenditure.....	90,361,513	97,798,467	116,021,918
Net capital gain on investments.....	—712,697	—8,159,625	—10,494,385
Other credits to surplus (net).....	899,141 ¹	1,199,467 ¹	5,711,983 ¹
Net increase in special reserves or funds.....	—15,079,009	—8,428,484	—21,029,248
Special increase in actuarial reserve.....	—9,877,135	—9,004,548	—13,228,763
Dividends to shareholders.....	—2,433,991	—2,726,995	—3,662,001
Increase in surplus (policyholders and shareholders).....	63,157,822	70,678,282	73,319,504
British Companies			
Revenue in Canada.....	143,176,165	151,481,735	149,668,702
Insurance premiums and annuity considerations.....	98,915,129	102,521,936	95,658,583
Investment income.....	40,335,404	46,481,259	51,745,531
Sundry items.....	3,925,632	2,478,540	2,264,588
Expenditure in Canada.....	69,458,537	79,964,103	82,859,054
Claims incurred.....	36,780,812	43,338,044	53,700,409
Taxes, licences and fees.....	1,513,147	1,620,962	1,875,066
Commissions and general expenses.....	19,301,870	22,266,515	24,321,344
Other expenditure.....	2,014,832	3,463,006	2,791,170
Dividends to policyholders.....	9,842,876	9,275,576	10,171,065
Foreign Companies			
Revenue in Canada.....	385,096,030	411,064,352	441,090,586
Insurance premiums and annuity considerations.....	267,154,978	282,502,239	300,488,361
Investment income.....	100,045,655	107,689,243	117,719,567
Sundry items.....	17,895,397	20,872,870	22,882,658
Expenditure in Canada.....	287,431,470	306,736,360	336,444,571
Claims incurred.....	143,088,010	153,345,061	165,150,142
Taxes, licences and fees.....	17,134,368	19,056,414	22,509,535
Commissions and general expenses.....	82,077,276	65,151,502	68,781,291
Other expenditure.....	16,188,804	17,861,678	23,147,752
Dividends to policyholders.....	48,943,012	51,321,705	56,855,851

¹ Includes amounts written off shares purchased under mutualization plan.

Subsection 4.—Life Insurance in Canada Transacted by Fraternal Benefit Societies

In addition to life insurance, some fraternal benefit societies grant other insurance benefits to members, notably sickness benefits, but these are relatively unimportant. Table 9 gives statistics of life insurance in Canada transacted by fraternal benefit societies and Table 10 shows statistics of assets, liabilities, income and expenditure relating to all business of Canadian societies and to the business in Canada of foreign societies. The rates charged by these societies are computed to be sufficient to provide the benefits granted, having regard for actuarial principles. The benefit funds of each society must be valued annually by a qualified actuary (Fellow, by examination, of the Institute of Actuaries of Great Britain, of the Faculty of Actuaries in Scotland, or of the Society of Actuaries) and a readjustment of rates or benefits must be made, unless the actuary

certifies to the solvency of each fund. The first sections of Tables 9 and 10 relate to the Canadian societies registered by the federal Department of Insurance; there were 14 such societies at the end of 1966.

Under an amendment to the Insurance Act, effective Jan. 1, 1920, all foreign fraternal benefit societies were required to obtain authority from the Federal Government prior to transacting business in Canada. However, any such societies which at that date were transacting business under provincial licences, although forbidden to accept new members, were permitted to continue all necessary transactions in respect of insurance already in force. Most of these societies and some foreign societies that had not been licensed previously by the provinces have since obtained federal authority to transact business. At the end of 1966 there were 35 foreign fraternal benefit societies federally registered to transact business in Canada, although two of these do not grant life insurance benefits.

9.—Summary of Life Insurance in Canada Transacted by Fraternal Benefit Societies under Federal Registration, 1964-66

Item	1964	1965	1966
Canadian Societies			
Premiums.....	\$ 10,839,374	13,297,856	12,340,944
Claims incurred.....	\$ 5,602,166	6,065,474	6,756,825
New certificates effected.....	No. 35,579	31,216	36,187
	\$ 121,952,835	128,415,057	164,929,528
Certificates in force Dec. 31.....	No. 322,137	322,142	330,415
	\$ 658,838,155	705,262,426	793,798,785
Certificates ceased by death or maturity.....	No. 3,358	3,717	3,885
	\$ 3,406,932	3,867,478	4,088,497
Foreign Societies			
Premiums.....	\$ 6,224,760	6,024,955	6,411,860
Claims incurred.....	\$ 3,007,317	3,251,190	3,517,566
New certificates effected.....	No. 12,927	14,951	15,158
	\$ 29,920,567	32,447,680	36,852,788
Certificates in force Dec. 31.....	No. 150,882	153,779	155,500
	\$ 245,087,050	257,535,185	274,204,054
Certificates ceased by death or maturity.....	No. 2,241	2,097	2,158
	\$ 2,126,961	2,034,703	2,187,626

10.—Financial Statistics for Fraternal Benefit Societies under Federal Registration, 1964-66

Item	1964	1965	1966
	\$	\$	\$
Canadian Societies¹			
Assets.....	237,202,293	261,079,632	289,042,122
Bonds.....	157,776,937	170,829,356	186,366,346
Stocks.....	13,671,631	13,950,242	14,464,714
Mortgage loans on real estate.....	43,957,568	53,042,282	62,615,322
Agreements of sale of real estate.....	19,151	25,385	126,611
Real estate.....	3,945,503	4,375,467	4,152,212
Certificate loans and liens.....	8,937,063	9,577,773	10,533,411
Cash.....	2,474,153	2,000,889	2,242,930
Investment income, due and accrued.....	2,029,951	2,274,005	2,741,934
Outstanding premiums, contributions and dues.....	4,030,641	4,154,907	4,468,448
Other.....	359,695	849,326	1,330,194
Liabilities and Surplus.....	237,202,293	261,079,632	289,042,122
Actuarial reserve.....	171,368,498	189,112,743	207,814,223
Outstanding claims.....	2,330,707	2,607,084	3,231,649
Amounts on deposit.....	949,568	1,190,719	1,558,289
Other.....	36,372,983	40,504,582	46,922,770
Surplus.....	26,180,537	27,664,504	29,515,191
Revenue.....	56,201,770	62,333,397	67,039,111
Premiums, contributions and dues.....	44,130,100	48,858,947	51,783,799
Investment income.....	11,140,913	12,485,643	13,995,589
Other.....	930,757	989,407	1,259,723

¹ All funds, business in and out of Canada.

**10.—Financial Statistics for Fraternal Benefit Societies under Federal Registration,
1964-66—concluded**

Item	1964	1965	1966
	\$	\$	\$
Canadian Societies¹—concluded			
Expenditure.....	53,070,653	58,115,591	61,757,771
Claims incurred.....	14,155,792	15,698,110	17,376,997
Increase in actuarial reserve.....	16,133,974	17,743,957	18,695,807
Taxes, licences and fees.....	151,596	155,010	187,383
Commissions.....	7,854,755	7,923,360	8,369,372
General expenses.....	9,070,597	9,915,848	10,476,753
Other.....	1,372,384	1,497,241	1,512,164
Dividends to members.....	3,619,031	3,931,950	4,611,707
Increase in provision for dividends to members.....	712,524	1,250,106	527,588
Analysis of Increase in Surplus—			
Excess of revenue over expenditure.....	3,131,117	4,218,406	5,281,340
Net capital gain on investments.....	36,733	-284,821	167,707
Other credits to surplus (net).....	281,842	113,118	268,588
Net increase in special reserves.....	-269,307	-2,211,892	-3,861,545
Increase in surplus.....	3,180,385	1,834,811	1,856,090
Foreign Societies²			
Assets.....	59,016,179	61,746,744	64,090,568
Bonds.....	50,310,740	52,493,353	54,353,672
Stocks.....	577,785	744,055	620,614
Mortgage loans on real estate.....	2,121,033	2,109,674	2,643,433
Certificate loans and liens.....	3,044,439	3,213,760	3,317,237
Cash.....	2,023,143	2,209,887	2,123,944
Investment income, due and accrued.....	736,138	776,205	833,776
Outstanding premiums, contributions and dues.....	198,704	199,309	196,597
Other.....	4,197	501	1,295
Liabilities.....	48,365,891	50,682,836	52,698,948
Actuarial reserve.....	43,683,668	45,783,893	47,576,764
Outstanding claims.....	554,758	490,568	516,199
Other.....	4,127,465	4,408,375	4,605,985
Revenue.....	11,460,668	11,349,054	11,623,790
Premiums, contributions and dues.....	8,131,284	7,979,468	8,054,960
Investment income.....	2,776,840	2,798,603	3,010,223
Other.....	552,544	570,983	558,607
Expenditure.....	6,617,272	6,648,293	7,044,285
Claims incurred.....	3,845,952	4,103,095	4,382,976
Taxes, licences and fees.....	61,649	85,604	108,584
Commissions.....	553,551	572,346	634,242
General expenses.....	528,932	635,474	664,742
Other.....	965,606	517,870	425,618
Dividends to members.....	661,582	733,904	828,123

¹ All funds, business in and out of Canada.² All funds, business in Canada only.

**Subsection 5.—Life Insurance Effectuated and in Force Outside Canada by
Canadian Companies under Federal Registration**

In this Subsection, there are given for the years 1965 and 1966 summary statistics of insurance effectuated and insurance in force at the end of the year in currencies other than Canadian dollars, as written by Canadian companies under federal registration. The data given are in terms of Canadian dollars, the conversions from the various foreign currencies having been made at the book rates of exchange used by the various companies.

Canadian life insurance companies operating under federal registration at Dec. 31, 1966 had life insurance in force amounting to \$21,812,629,668 in countries outside Canada. Insurance in force in currencies other than Canadian dollars amounted to \$21,787,442,839; the difference between these figures is presumably the net amount of business in countries outside Canada transacted in Canadian currency. The business in force in Canada of Canadian companies registered by the Federal Government amounted to \$52,622,094,411 at Dec. 31, 1966, and the total business on the books of these companies, in and out of

Canada, amounted to \$74,434,724,079. Thus, over 29 p.c. of the total business in force for Canadian companies registered by the Federal Government was in force in countries outside Canada. In connection with their business outside Canada, the Canadian life insurance companies registered by the Federal Government held, at the end of 1966, Commonwealth and foreign investments in the amount of \$3,894,523,405.

Approximately 71 p.c. of all business in force in currencies other than Canadian is in United States currency and 17 p.c. is in sterling. From a slightly different point of view, approximately 22 p.c. of this business in force is in currencies of Commonwealth countries other than Canada, and 78 p.c. in currencies of foreign countries.

11.—Life Insurance Effected and in Force for Canadian Companies (excluding Fraternal Societies) under Federal Registration, in Currencies other than Canadian Dollars, by Currency, 1965 and 1966.

Currency	1965		1966	
	Insurance Effected	Insurance in Force	Insurance Effected	Insurance in Force
	\$	\$	\$	\$
Commonwealth Currencies	654,531,750	4,404,711,769	741,928,820	4,822,736,109
Pounds—				
Sterling.....	501,510,690	3,399,227,461	588,085,366	3,732,318,711
Australia.....	—	30,018	—	—
British West Indies, Bahamas, Bermuda and Jamaica.....	60,984,116	292,926,807	53,756,761	274,602,326
Cyprus.....	—	10,326,192	—	9,870,265
Rhodesia.....	694,888	118,200,355	—	102,578,810
Zambia.....	—	20,034,925	—	16,821,082
Dollars—				
Australia.....	—	—	—	25,360
British Honduras.....	—	464,045	—	502,665
British West Indies, Bahamas, East Caribbean, Guyana and Trinidad.....	88,482,621	473,364,700	96,724,365	598,934,165
Hong Kong.....	2,837,735	27,233,073	3,362,328	29,864,097
Malaysia.....	—	23,131,292	—	20,787,150
Rupees—				
Ceylon.....	—	21,822,522	—	20,152,109
India.....	—	3,342,719	—	2,387,904
Pakistan.....	—	430,909	—	680,334
Shillings—				
East Africa.....	21,700	14,176,751	—	13,211,131
Foreign Currencies	2,527,556,280	15,459,761,251	2,439,162,273	16,961,706,730
Bahts (Thailand).....	—	5,371	—	4,446
Bolivars (Venezuela).....	7,551,561	60,305,410	9,705,605	70,822,140
Cordobas (Nicaragua).....	—	1,613	—	1,613
Dollars (United States of America).....	2,330,966,688	14,060,258,975	2,201,802,276	15,448,642,279
Francs (Belgium).....	—	656	—	659
Francs (France).....	—	33	—	33
Francs (Switzerland).....	89,500	286,900	27,000	278,200
Guilders (Netherlands).....	—	194,659	—	175,776
Guilders (Netherlands Antilles).....	3,228,509	24,702,993	5,809,381	27,927,965
Kyats (Burma).....	—	21,268	—	14,290
Pesos (Argentina).....	—	1,099,933	—	971,787
Pesos (Colombia).....	—	4,320	—	3,360
Pesos (Cuba).....	5,000	69,059,944	—	43,554,521
Pesos (Dominican Republic).....	5,025,057	44,938,046	14,535,993	56,498,358
Pesos (Mexico).....	1,000	2,359,025	—	2,073,784
Pesos (Philippines).....	18,695,150	103,721,717	17,246,175	95,580,815
Pounds (Egypt).....	—	7,532,489	—	6,643,548
Pounds (Republic of Ireland).....	25,081,965	133,531,472	24,479,560	148,258,000
Pounds (Israel).....	16,212,940	57,581,478	35,639,893	88,730,007
Rand (South Africa).....	120,698,910	894,092,924	129,916,390	974,495,973
Rupiah (Indonesia).....	—	8,194	—	—
Soles (Peru).....	—	50,550	—	25,867
Yen (Japan).....	—	3,281	—	3,309
Totals	3,182,088,030	19,864,473,020	3,181,091,093	21,787,442,839

Section 2.—Fire and Casualty Insurance

At the end of 1966 there were 258 companies registered by the Federal Government to transact fire insurance in Canada (83 Canadian, 64 British and 111 foreign). Of these companies, 250 (78 Canadian, 62 British and 110 foreign) were also registered to transact casualty insurance. In addition, 105 companies were registered by the Federal Government to transact casualty insurance but not fire insurance (28 Canadian, 7 British and 70 foreign). Of the companies registered to transact fire and/or casualty insurance, 83 were also registered to transact life insurance; 14 of these were registered for fire, life and casualty insurance and 69 for life and casualty but not fire insurance. It should be noted also that, in addition to the companies registered by the Federal Government to transact casualty insurance, there were 30 registered fraternal benefit societies transacting accident and sickness insurance, of which 28 also transacted life insurance.

The operations analysed in the tables of this Section, with the exception of Table 12, include only those companies under federal registration. As shown in Table 12, some fire and casualty insurance is transacted in Canada by companies that are provincially licensed only. These companies generally confine their operations to the province of incorporation and many of them are mutual organizations transacting only fire insurance on a county, municipal or parish basis. The table relates to insurance companies only; no data are included for fraternal benefit societies.

12.—Fire and Casualty Insurance Transacted in Canada, 1965 and 1966

Item	1965		1966	
	Net Premiums Written	Net Claims Incurred	Net Premiums Written	Net Claims Incurred
	\$	\$	\$	\$
Fire Insurance				
Federally registered companies ¹	243,198,156	121,578,097	258,034,475	133,037,355
Provincial licensees.....	36,950,198	19,576,754	41,983,324	18,625,208
In province by which incorporated.....	33,459,873	17,545,784	37,412,857	16,837,688
Outside province by which incorporated.....	3,490,325	2,030,970	4,570,467	1,787,520
Lloyds, London.....	10,695,425	7,863,415	12,203,585	19,706,286
Totals, Fire¹.....	290,843,779	149,018,266	312,221,384	171,368,849
Casualty Insurance				
Federally registered companies ¹	971,679,475	608,240,341	1,104,929,135	694,668,410
Provincial licensees.....	104,163,691	60,186,350	115,812,422	67,428,676
In province by which incorporated.....	91,979,346	51,749,586	102,415,276	60,091,575
Outside province by which incorporated.....	12,184,345	8,436,764	13,397,146	7,337,101
Lloyds, London.....	48,582,746	26,462,104	55,055,867	38,122,917
Totals, Casualty¹.....	1,124,425,912	694,888,795	1,275,797,424	800,220,003
Totals, Fire and Casualty¹.....	1,415,269,691	843,907,061	1,588,018,808	971,588,852

¹ Registered or licensed reinsurance deducted from all companies.

Subsection 1.—Fire Insurance Transacted in Canada by Companies under Federal Registration

Net premiums written and net claims incurred during each year from 1957 to 1966 are given in Table 13 and the figures for 1966 are classified by province and nationality of company in Table 14.

13.—Fire Insurance Transacted in Canada by Companies under Federal Registration, 1957-66

(Less all reinsurance for Canadian companies and registered or licensed reinsurance only for British and foreign companies)

Year	Net Premiums Written during Year	Net Claims Incurred during Year	Year	Net Premiums Written during Year	Net Claims Incurred during Year
	\$	\$		\$	\$
1957.....	156,246,117	109,757,161	1962.....	200,768,495	104,472,605
1958.....	177,364,450	88,151,837	1963.....	196,915,780	125,252,467
1959.....	196,702,991	96,054,754	1964.....	205,276,365	110,502,299
1960.....	200,735,958	100,501,460	1965.....	224,356,436	111,570,118
1961.....	200,859,825	96,343,611	1966.....	236,699,967	120,452,654

14.—Fire Insurance in Canada classified by Province and by Nationality of Company under Federal Registration, 1966

(Registered or licensed reinsurance deducted)

Province or Territory	Canadian Companies		British Companies		Foreign Companies	
	Net Premiums Written	Net Claims Incurred	Net Premiums Written	Net Claims Incurred	Net Premiums Written	Net Claims Incurred
	\$	\$	\$	\$	\$	\$
Newfoundland.....	1,416,668	2,458,269	1,304,380	3,419,966	1,211,638	2,593,701
Prince Edward Island.....	426,898	139,377	458,161	175,667	180,372	55,422
Nova Scotia.....	3,932,168	1,491,124	3,108,561	1,267,279	1,818,821	1,636,029
New Brunswick.....	3,018,520	1,865,543	2,594,700	1,977,430	2,190,994	1,521,424
Quebec.....	33,624,042	13,992,202	21,429,198	12,474,763	28,330,881	14,420,039
Ontario.....	40,733,633	16,894,336	21,708,497	10,135,136	33,147,944	14,670,290
Manitoba.....	5,873,462	3,210,647	2,552,880	1,698,102	2,556,584	1,481,202
Saskatchewan.....	3,852,777	1,842,733	1,197,507	572,024	1,738,625	1,113,089
Alberta.....	6,855,147	3,141,848	3,851,550	2,484,571	3,800,616	2,704,937
British Columbia.....	8,862,263	4,590,005	6,123,758	3,002,027	9,594,598	4,828,934
Yukon and Northwest Territories...	161,134	288,241	268,399	758,364	109,099	132,634
Canada.....	108,756,712	49,914,325	64,597,591	37,965,329	84,680,172	45,157,701

Subsection 2.—Fire Losses

The information in Tables 15 to 17, which deals with the loss of property and life caused by fire, has been summarized from the annual report *Fire Losses in Canada* prepared by the Dominion Fire Commissioner, Department of Public Works. Federal losses not included in these figures in 1965 amounted to \$6,585,190 from 1,397 fires; average federal losses for the period 1956-65 amounted to \$4,621,052 from an annual average of 2,106 fires.

15.—Statistics of Fire Losses, 1956-65

NOTE.—Figures for 1926-46 are given in the 1947 Year Book, p. 1078, and those for 1947-55 in the 1960 edition, p. 1169. Figures from 1922 may be obtained from the Dominion Fire Commissioner, Department of Public Works.

Year	Fires Reported	Property Loss ¹	Loss per Capita	Deaths by Fire	Year	Fires Reported	Property Loss ¹	Loss per Capita	Deaths by Fire
	No.	\$	\$	No.		No.	\$	\$	No.
1956.....	80,746	106,772,153	6.64	601	1961.....	83,706	128,262,047	7.03	556
1957.....	82,088	133,492,277	8.04	638	1962.....	85,585	140,144,643	7.55	626
1958.....	86,919	120,258,696	7.04	532	1963.....	83,027	154,051,629	8.15	553
1959.....	84,241	124,532,238	7.12	560	1964.....	75,306	148,376,961	7.71	603
1960.....	79,611	129,327,288	7.24	566	1965.....	68,432	144,179,977	7.37	589

¹ Excludes forest fires and Federal Government property losses.

The provincial property losses for 1962-65 given in Table 16 include both insured and uninsured losses.

16.—Fire Losses, by Province, 1962-65

Province or Territory	1962	1963	1964	1965		
	Property Loss ¹			Fires Reported	Property Loss ¹	Loss per Capita
	\$	\$	\$	No.	\$	\$
Newfoundland.....	1,026,077	3,368,293	1,249,077	309	1,008,886	2.03
Prince Edward Island.....	901,550	859,773	490,172	426	829,417	7.68
Nova Scotia.....	3,863,201	3,332,053	3,896,713	2,386	3,627,629	4.77
New Brunswick.....	3,155,172	4,529,053	4,285,010	1,747	3,766,380	6.05
Quebec.....	53,197,135	53,837,155	50,101,705	21,290	50,677,285	8.96
Ontario.....	43,509,265	52,421,532	48,930,025	23,387	49,226,951	7.31
Manitoba.....	6,184,097	6,806,691	6,438,740	3,333	6,155,707	6.40
Saskatchewan.....	2,799,614	4,701,317	5,329,669	2,179	4,087,775	4.30
Alberta.....	10,756,397	9,813,646	11,560,866	6,110	9,997,323	6.89
British Columbia.....	14,346,870	13,792,731	14,985,863	6,977	14,137,784	7.90
Yukon and Northwest Territories...	405,265	589,385	1,109,121	288	664,840	16.62
Canada.....	140,144,643	154,051,629	148,376,961	68,432	144,179,977	7.37

¹ Excludes forest fires and Federal Government property losses.

17.—Fire Losses, by Type of Property and Cause of Fire, 1963-65

Type of Property and Reported Cause of Fire	1963		1964		1965	
	Fires Reported	Property Loss ¹	Fires Reported	Property Loss ¹	Fires Reported	Property Loss ¹
	No.	\$	No.	\$	No.	\$
Type of Property						
Residential.....	50,040	39,413,018	53,396	39,674,160	47,619	46,331,929
Mercantile.....	16,470	52,487,306	6,543	43,430,189	4,018	33,746,812
Farm.....	6,088	14,866,579	5,418	14,779,996	6,154	13,959,035
Manufacturing.....	2,042	18,871,320	1,870	24,297,338	1,598	24,275,046
Institutional and assembly.....	1,242	10,459,249	1,245	12,129,277	1,093	7,768,020
Miscellaneous.....	7,145	18,454,157	6,834	14,057,001	7,950	18,099,135
Totals.....	83,027	154,051,629	75,306	148,376,961	68,432	144,179,977
Reported Cause						
Smokers' carelessness.....	28,500	9,359,174	23,156	8,245,166	21,563	8,668,874
Stoves, furnaces, boilers and smoke pipes.....	5,559	10,706,095	4,653	8,713,654	4,238	9,348,707
Electrical wiring and appliances.....	8,586	18,918,304	9,007	19,486,867	7,889	18,852,123
Matches.....	2,322	4,021,211	2,015	2,030,027	2,374	3,466,694
Defective and overheated chimneys and flues.....	2,240	2,790,044	1,911	2,133,072	1,739	1,800,013
Hot ashes, coals and open fires.....	1,309	1,250,543	1,290	1,531,309	1,042	1,389,128
Petroleum and its products.....	1,633	4,277,143	1,690	5,437,823	1,760	3,952,555
Lights, other than electric.....	1,518	3,842,748	1,380	3,050,987	1,605	2,847,720
Lightning.....	3,602	1,732,352	2,793	2,209,512	2,273	2,497,727
Sparks on roofs.....	255	350,180	249	328,782	535	1,199,777
Exposure fires.....	527	1,026,679	537	1,090,986	527	1,496,691
Spontaneous ignition.....	393	3,156,934	401	2,461,143	346	2,146,675
Incendiarism.....	782	4,747,611	992	7,159,986	953	4,001,146
Miscellaneous known causes (explosions, fireworks, friction, hot grease or metal, steam or hot water pipes, etc.).....	10,727	13,458,092	9,985	11,350,928	8,667	10,377,033
Unknown.....	15,074	74,414,519	15,247	73,146,719	12,921	72,135,114

¹ Excludes forest fires and Federal Government property losses.

Subsection 3.—Casualty Insurance Transacted in Canada by Companies under Federal Registration

The various classes of casualty insurance are shown in Table 18. These figures relate only to companies registered by the Federal Government.

18.—Net Casualty Premiums Written, Premiums Earned and Claims Incurred in Canada, 1966

NOTE.—Excluding marine insurance for which a certificate of registration is not required. Less all reinsurance for Canadian companies and registered or licensed reinsurance only for British and foreign companies.

Class of Insurance	Premiums Written				Premiums Earned	Claims Incurred
	Canadian Companies	British Companies	Foreign Companies	Total	All Companies	All Companies
	\$	\$	\$	\$	\$	\$
Aircraft.....	576,039	4,462,257	2,275,746	7,314,042	6,468,882	8,570,637
Automobile.....	282,431,615	109,091,623	171,313,894	562,837,132	532,194,186	343,337,721
Boiler—						
Boiler.....	4,319,233	1,209,838	2,474,085	8,003,156	7,240,873	1,652,633
Machinery.....	2,222,998	451,893	926,136	3,601,027	3,120,427	1,777,183
Credit.....	282,086	—	707,350	989,436	998,780	387,501
Earthquake.....	26,653	27,187	—5,705	48,135	88,078	5,646
Explosion.....	—	—	90	90	107	—137
Forgery.....	118,373	14,970	16,641	149,984	164,996	59,792
Guarantee—						
Fidelity.....	2,654,290	1,004,387	2,383,991	6,042,668	6,178,584	2,694,424
Surety.....	6,185,392	1,116,003	10,789,876	18,091,271	17,616,165	2,060,682
Hail.....	633,545	782,954	3,989,948	5,406,447	5,584,832	3,328,864
Inland transportation.....	2,421,064	1,852,191	4,350,397	8,623,652	8,301,995	4,908,599
Liability—						
Public liability.....	21,797,935	12,581,668	17,246,208	51,625,811	49,111,595	27,606,638
Employers' liability.....	3,214,517	2,910,793	1,639,946	7,765,256	7,724,222	3,796,505
Livestock.....	34,257	207,027	101,573	342,857	343,371	222,180
Mortgage.....	1,033,384	—	—	1,033,384	283,149	13,142
Personal accident and sickness.....	166,093,595	7,251,019	150,792,255	324,136,869	321,712,385	243,094,263
Personal property.....	22,386,427	15,022,528	24,179,889	61,588,844	60,188,575	27,394,461
Plate glass.....	1,560,505	909,626	938,059	3,408,190	3,095,773	1,776,750
Real property.....	688,779	978,051	1,236,741	2,903,571	2,645,928	2,454,581
Sprinkler leakage.....	2	10	—	12	19	600
Theft.....	3,854,192	2,315,896	2,946,101	9,116,189	9,051,432	3,402,952
Title.....	—	—	121,445	121,445	111,231	1,625
Weather.....	—	—	3,808	3,808	3,808	1,928
Windstorm.....	69,930	628	37,980	108,538	93,680	43,572
Totals.....	522,604,811	162,190,549	398,466,454	1,083,261,814	1,042,123,073	678,592,742

Subsection 4.—Finances of Companies Transacting Fire and Casualty Insurance under Federal Registration

The financial statistics of Tables 19 and 20 relate to fire and casualty insurance transacted by companies under federal registration. The figures for British and foreign companies apply to their assets, liabilities and operations in Canada only. On the other hand, the assets and liabilities, revenue and expenditure of Canadian companies are given for total business, including business arising out of Canada as well as in Canada.

19.—Total Assets and Liabilities for Fire and Casualty Insurance of Canadian Companies and Assets and Liabilities in Canada for Fire and Casualty Insurance of British and Foreign Companies under Federal Registration, 1964-66.

Assets and Liabilities	1964	1965	1966
	\$	\$	\$
Canadian Companies¹			
Total Assets²	769,673,574	870,501,556	973,878,316
Bonds.....	463,897,562	515,489,370	575,345,194
Stocks.....	100,881,261	121,517,056	159,959,343
Mortgage loans and agreements of sale.....	29,361,494	33,319,405	38,269,552
Real Estate.....	18,653,012	17,627,140	17,370,661
Cash.....	37,351,588	47,329,785	48,337,007
Investment income, due and accrued.....	6,157,609	6,856,043	7,938,241
Amounts due from agents and uncollected premiums.....	68,265,253	78,250,503	90,617,922
Other assets.....	45,712,448	54,080,065	55,586,919
Adjustment for excess of book value over market value.....	-606,653	-3,967,811	-19,546,523
Total Liabilities	548,131,659	625,039,806	709,415,985
Reserve for unearned premiums.....	203,254,897	233,316,991	259,235,248
Additional policy reserves.....	6,454,497	7,976,935	9,058,525
Provision for unpaid claims.....	207,542,187	242,846,584	287,712,735
Investment, contingency or general reserves.....	32,801,075	33,248,079	28,299,759
Other liabilities.....	98,079,003	107,651,217	125,109,718
Capital stock paid.....	48,788,196	50,511,505	51,297,618
Amount transferred from other funds.....	12,060,250	13,713,473	16,282,460
Surplus.....	160,693,469	181,236,772	196,882,253
British Companies³			
Assets in Canada⁴	353,827,288	371,038,935	350,746,603
Bonds.....	256,569,395	264,296,214	270,446,138
Stocks.....	30,537,041	38,019,157	40,027,460
Mortgage loans and agreements of sale.....	2,129,368	3,673,701	4,529,688
Real estate.....	3,373,858	3,844,001	2,806,676
Cash.....	12,389,194	11,205,618	12,513,103
Investment income, due and accrued.....	2,616,060	2,868,406	3,125,631
Amounts due from agents and uncollected premiums.....	34,711,199	35,574,013	38,600,389
Other assets.....	11,501,173	11,557,825	8,697,518
Liabilities in Canada	241,327,983	250,764,647	262,361,137
Reserve for unearned premiums.....	111,801,728	114,971,031	117,385,009
Additional policy reserves.....	1,169,676	1,261,987	1,281,580
Provision for unpaid claims.....	106,316,358	114,495,987	126,042,145
Other liabilities.....	22,040,221	20,036,542	17,652,403
Excess of assets over liabilities in Canada.....	112,499,305	120,274,288	118,385,466
Foreign Companies³			
Assets in Canada⁴	532,724,871	587,450,695	679,655,250
Bonds.....	422,572,234	456,687,718	533,338,105
Stocks.....	18,273,361	22,324,100	24,996,449
Mortgage loans and agreements of sale.....	70,973	60,459	57,088
Real estate.....	4,734,626	4,720,163	5,797,675
Cash.....	28,731,906	31,468,188	31,491,322
Investment income, due and accrued.....	5,182,547	5,924,430	7,498,572
Amounts due from agents and uncollected premiums.....	38,265,609	47,265,707	53,020,746
Other assets.....	14,893,615	18,999,930	23,455,293
Liabilities in Canada	366,353,590	427,601,557	485,127,110
Reserve for unearned premiums.....	173,536,362	201,488,734	217,936,320
Additional policy reserves.....	8,246,507	10,219,696	11,095,353
Provision for unpaid claims.....	147,522,090	175,464,566	204,410,487
Other liabilities.....	37,048,631	40,428,561	51,684,950
Excess of assets over liabilities in Canada.....	166,371,281	159,849,138	194,528,140

¹ Business in and out of Canada. ² At book values. The amount, if any, by which the total book value of bonds, stocks and real estate exceeds the total market value is shown separately as a deduction to assets.
Business in Canada only. ⁴ At market values.

20.—Underwriting Account and Analysis of Surplus of Canadian Companies and Underwriting Account and Investment Income in Canada of British and Foreign Companies Transacting Fire and Casualty Insurance under Federal Registration, 1965 and 1966.

Item	1965	1966
	\$	\$
Canadian Companies		
(In and Out of Canada)		
Underwriting Account—		
Underwriting income earned.....	567,078,185	665,869,662
Less disbursements:		
Claims incurred.....	372,623,948	425,338,236
Commissions and general expenses.....	180,853,109	202,658,810
Premium taxes, licences and fees.....	13,764,111	16,131,497
Dividends to policyholders.....	4,154,423	8,892,542
Underwriting gain or loss (—).....	—4,317,406	12,848,577
Analysis of Increase in Surplus—		
Underwriting gain or loss (—).....	—4,317,406	12,848,577
Investment income.....	32,575,235	38,295,533
Other investment account items.....	—1,178,450	—17,198,133
Income taxes.....	—5,273,413	—12,092,103
Dividends to shareholders.....	—4,757,992	—6,166,038
Other surplus items.....	—1,801,400	638,446
Premium on capital stock or surplus paid in.....	7,472,155	1,000,500
Increase in surplus.....	22,718,729	17,326,782
British Companies		
Underwriting Account in Canada—		
Underwriting income earned.....	214,202,897	224,590,583
Less disbursements:		
Claims incurred.....	126,098,049	136,460,810
Commissions and general expenses.....	85,113,232	86,036,122
Premium taxes, licences and fees.....	5,157,579	5,380,967
Dividends to policyholders.....	—	—
Underwriting gain or loss (—).....	—2,165,963	—3,287,316
Income taxes.....	30,087	61,218
Investment income.....	11,747,706	13,279,609
Foreign Companies		
Underwriting Account in Canada—		
Underwriting income earned.....	412,644,927	466,225,079
Less disbursements:		
Claims incurred.....	266,600,689	295,259,993
Commissions and general expenses.....	129,107,737	137,275,648
Premium taxes, licences and fees.....	10,031,897	11,251,193
Dividends to policyholders.....	4,153,930	5,746,285
Underwriting gain or loss (—).....	2,750,674	16,691,960
Income taxes.....	2,752,162	5,340,376
Investment income.....	22,046,067	26,512,288

Section 3.—Government Insurance

Federal Government Insurance

In recent years, various insurance schemes have been adopted by the Federal Government or undertaken co-operatively by the federal and provincial governments. Information on unemployment insurance, hospital insurance, veterans insurance, export credits insurance, etc., will be found in the appropriate Chapters on Labour, Health and Welfare, Foreign Trade, etc.

Provincial Government Insurance

Saskatchewan.—The Saskatchewan Government Insurance Office, a Crown corporation established by the Saskatchewan Government Insurance Act, 1944, commenced business in May 1945. It deals in all types of insurance other than sickness and life. The aim of the legislation is to provide residents of the province with low-cost insurance designed for their particular needs. Rates are based on loss experience in Saskatchewan only and the surplus is invested, to the extent possible, within the province. Premium income for 1966 amounted to \$12,489,743 and earned surplus to \$601,795. The total amount made available to The Government Finance Office of the Province of Saskatchewan from 1945 to Dec. 31, 1966 was \$6,144,564. Assets at the latter date were \$26,382,095, of which \$12,500,000 were invested in bonds and debentures issued by the Province of Saskatchewan and by Saskatchewan schools, municipalities and hospitals. Independent insurance agents numbering 625 sell government insurance throughout the province.

The Automobile Accident Insurance Act, administered by the Saskatchewan Government Insurance Office on behalf of the provincial government, provides a comprehensive automobile accident insurance plan for the protection of the public in this province. Premiums paid by motorists create a fund from which benefits are paid in the event of death, injuries and damages sustained in automobile accidents. Any surplus over payments is used to increase benefits, reduce premiums, or absorb deficits in periods of high accident frequency. The surplus is not transferable to the general operations of the Saskatchewan Government Insurance Office, nor is any surplus credited to the provincial government. The plan provides for public liability insurance, with an inclusive limit of \$35,000 for bodily injury and property damage, as well as comprehensive and collision coverage subject to a \$200 deductible for private passenger cars. Rates vary from \$4 a year for older farm trucks to \$74 for late-model private passenger cars, and also vary for other types of motor vehicles depending on size and usage. From the inception of the Act in 1946 to Dec. 31, 1966, more than \$109,000,000 was paid in claims.

The Saskatchewan Government Insurance Office, under contract with the Saskatchewan Department of Natural Resources, offers insurance to farmers covering damage to unharvested crops by certain wildlife such as ducks, geese, sandhill cranes, deer, elk, bear and antelope.

Information regarding the operation of the Saskatchewan Government Insurance Office or the Automobile Accident Insurance Act may be obtained from the Office Librarian, Saskatchewan Government Insurance Office, Regina, Sask.

Alberta.—Provincial government insurance in Alberta, coming within the purview of the Alberta Insurance Act, relates (1) to the Alberta General Insurance Company, in which the entire business of the fire branch of the Alberta Government Insurance Office was vested by the Legislature on Mar. 31, 1948, and (2) to the Life Insurance Company of Alberta, which was constituted on the same date to take over the life branch of the Alberta Government Insurance Office. Each company is administered by a separate board of directors. The Lieutenant-Governor in Council appoints the members to the respective boards but the charter of the Life Insurance Company of Alberta provides for the election of two policyholder directors. Although both companies are Crown corporations, they are not entitled to the usual immunities of the Crown, since they may sue and be sued in any court of competent jurisdiction.

A variety of agencies in Alberta offer forms of prepaid protection corresponding to insurance but the nature of the enabling legislation governing these plans emphasizes the fact that they do not constitute insurance. Because such exemptions are specifically provided by the insurance laws of the province, reference to these plans is necessary only to make it clear that they do not come within the scope of the Alberta Insurance Act. It should be noted that the Alberta Hail Insurance Act is administered by the Provincial Treasurer but none of the provisions of the Alberta Insurance Act apply to the Alberta Hail Insurance Board.

Further information on provincial insurance matters may be obtained from the Superintendent of Insurance, Department of the Provincial Secretary, Edmonton, Alta.

Section 4.—Pension Plans*

Very few pension plans in Canada have been in existence for more than 25 years and most of the older plans were established by governments, banks and railways. The greatest growth in pension plans and coverage began during World War II and continued through the postwar years. By 1960 there were 9,000 pension plans in Canada covering some 1,800,000 persons and over the next five years the number increased by nearly 50 p.c. to an estimated 14,200 plans in 1966 covering some 2,300,000 persons.

Up to 1948 most plans were of the insured type, being underwritten by either an insurance company or the Government Annuities Branch of the Canada Department of Labour. The trust fund arrangement then began to grow in popularity and is now the dominant instrument for funding pension benefits measured in terms of membership and assets held. In 1966 contributions to trustee pension funds alone amounted to \$692,000,000, accounting for over 75 p.c. of all contributions to private pension plans. Funds of this magnitude represent a major medium for personal savings and the investment of these funds exerts a considerable influence on the capital market.

Table 21 shows the distribution of pension business for the years 1960-66, excluding the public service superannuation funds of the Federal Government and of six provincial governments which are nominal funds only, having no invested assets.

* Prepared by the Pension Plans Section, Labour Division, Dominion Bureau of Statistics.

21.—Distribution of Pension Business between Trusteed Funds, Life Insurance Company Annuities and Government Annuities, 1960-66

Item and Year	Trusteed Pension Funds	Life Insurance Group Annuities ¹	Federal Government Group Annuities
	No.	No.	No.
Funds—			
1960.....	1,139	6,564	1,556
1961.....	1,362	7,305	1,513
1962.....	1,546	8,276	1,437
1963.....	1,804	9,276	1,365
1964.....	2,118	10,048	1,312
1965.....	2,997	10,866	1,267
1966.....	3,467	11,459	1,416
Plan Members—			
1960.....	1,001,066	469,339	185,000
1961.....	1,077,119	501,060	174,000
1962.....	1,126,634	536,886	161,090
1963.....	1,253,437	560,539	155,586
1964.....	1,332,391	570,925	149,026
1965.....	1,467,424	580,984	141,579
1966.....	1,554,891	563,579	122,576

¹ Excludes segregated pension plan funds, with assets of \$136,000,000 in 1966.

21.—Distribution of Pension Business between Trusteed Funds, Life Insurance Company Annuities and Government Annuities, 1960-66—concluded

Item and Year	Trusteed Pension Funds	Life Insurance Group Annuities ¹	Federal Government Group Annuities
	\$'000,000	\$'000,000	\$'000,000
Contributions—			
1960.....	390	146	30
1961.....	432	157	25
1962.....	468	172	20
1963.....	537	178	13
1964.....	593	207	10
1965.....	674	217	7
1966.....	692	174	5
Assets (book value)—			
1960.....	3,583	1,208	600
1961.....	4,036	1,397	610
1962.....	4,530	1,606	625
1963.....	5,127	1,818	623
1964.....	5,766	2,049	615
1965.....	6,541	2,333	634
1966.....	7,250	2,507	644

¹ Excludes segregated pension plan funds, with assets of \$136,000,000 in 1966.

Most trusteed pension plans use the facilities of corporate trustees (trust companies) who invest the contributions, accumulate the earnings and pay benefits to the plan members. Trusteed pension plan funds are also managed by individual trustees or pension fund societies. The designated trustee, corporate or individual, must invest the contributions in accordance with the trust agreement which sets forth the rights and duties of the trustee. Many of the small funds invest in the "pooled funds" of trust companies which combine the assets of many pension funds, thus providing the diversification of investments usually available only to larger funds.

Table 22 shows the various trust arrangements and the income, expenditures and assets of trust funds for 1960-66.

22.—Trusteed Pension Funds, Income, Expenditures and Assets, 1960-66

Item	1960	1961	1962	1963	1964	1965	1966
	No.	No.	No.	No.	No.	No.	No.
Trust Arrangements—							
(a) Corporate trustees.....	906	1,109	1,256	1,487	1,732	2,306	2,530
(b) Individual trustees.....	194	210	229	250	320	625	862
(c) Combinations of (a) and (b).....	3	7	23	29	29	32	42
(d) Pension fund societies.....	36	36	38	38	37	34	33
Totals, Trusteed Funds.....	1,139	1,362	1,546	1,804	2,118	2,997	3,467
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Income—							
Total contributions.....	390	432	468	537	593	674	692
Employer.....	230	251	268	314	345	403	431
Employee.....	160	181	200	223	248	271	261
Investment income.....	152	179	204	235	270	306	348
Net profit on sale of securities.....	2	4	6	9	9	11	7
Other.....	6	4	3	5	3	7	19
Totals, Income.....	550	619	681	786	875	998	1,066

22.—Trusteed Pension Funds, Income, Expenditures and Assets, 1960-66—concluded

Item	1960	1961	1962	1963	1964	1965	1966
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Expenditures—							
Pension payments out of funds.....	107	124	134	149	169	197	227
Cost of pension purchased.....	5	4	6	4	8	8	11
Cash withdrawals.....	30	33	42	47	54	84	103
Administration costs.....	1	2	2	3	4	5	6
Net loss on sale of securities.....	8	12	6	3	4	2	7
Other expenditures.....	2	2	2	3	8	7	16
Totals, Expenditures.....	153	177	192	209	247	303	370
Assets (book value)—							
Investment in pooled funds.....	102	125	173	239	324	428	513
Investment in mutual funds.....	29	35	44	49	58	32	36
Bonds.....	2,757	3,010	3,257	3,580	3,865	4,182	4,489
Bonds of or guaranteed by Government of Canada.....	653	600	607	531	549	511	436
Bonds of or guaranteed by provincial governments.....	1,111	1,305	1,476	1,667	1,861	2,014	2,218
Bonds of Canadian municipal governments, school boards, etc.....	532	435	461	539	535	647	680
Other Canadian.....	609	661	710	790	867	1,006	1,096
Non-Canadian.....	2	9	3	3	3	4	9
Stocks.....	258	391	497	611	776	989	1,217
Canadian, common.....	208	322	402	496	624	791	933
Canadian, preferred.....	26	18	18	20	19	29	49
Non-Canadian, common.....	23	51	77	95	133	169	234
Non-Canadian, preferred.....	1	--	--	--	--	--	1
Mortgages.....	299	341	414	479	542	623	676
Insured residential (NHA).....	195	231	273	324	350	384	391
Conventional.....	104	110	136	155	192	239	285
Real estate and lease-backs.....	29	33	34	40	42	44	41
Miscellaneous—							
Cash on hand and in chartered banks....	65	42	44	58	75	103	117
Guaranteed investment certificates.....	..	..	..	..	..	18	27
Short-term investments.....	..	..	..	..	..	32	33
Accrued interest and dividends receivable	32	36	42	44	49	56	63
Accounts receivable.....	11	21	24	27	31	32	37
Other assets.....	1	2	1	--	4	2	1
Totals, Assets.....	3,533	4,036	4,530	5,127	5,766	6,541	7,250

Federal Government Annuities.—Since 1908 the Federal Government has sold annuities and industrial pension plans under the Government Annuities Act (RCS 1952, c.132). The purpose of the introduction of this legislation was to encourage people to save for old age but since the need for government service in this form has decreased in recent years, reduction of the program became justified and the employment of salesmen to solicit business was ended on Nov. 30, 1967. Annuities are still available under the Act to those who ask for them. At Mar. 31, 1967 there were 99,305 annuities being paid amounting to \$57,922,931 annually. There were 1,416 pension plans in force providing portable pensions to 188,248 employees, and there were 84,766 individual deferred annuities being purchased. The amount in the Government Annuities Account was \$1,324,518,806.

CHAPTER XXVI.—DEFENCE

CONSPECTUS

	PAGE		PAGE
Part I.—The Canadian Forces and Defence Research.....	1157	SECTION 4. SERVICES COLLEGES AND STAFF TRAINING COLLEGES.....	1168
SECTION 1. THE DEPARTMENT OF NATIONAL DEFENCE.....	1157	SECTION 5. THE DEFENCE RESEARCH BOARD	1170
SECTION 2. THE COMMAND STRUCTURE OF THE CANADIAN FORCES.....	1162	Part II.—Defence Production.....	1171
SECTION 3. OPERATIONS AND TRAINING OF THE CANADIAN FORCES.....	1163	Part III.—Civil Emergency Planning (Civil Defence).....	1173

The interpretation of the symbols used in the tables throughout the Year Book will be found on p. xvi of this volume.

PART I.—THE CANADIAN FORCES AND DEFENCE RESEARCH*

Section 1.—The Department of National Defence

The control and management of all matters relating to national defence, the Canadian Armed Forces and the Defence Research Board are the responsibility of the Minister of National Defence; the duties and functions relating to civil emergency operations in peace and war have also been assigned to the Department of National Defence, with the Canadian Forces undertaking the role.

The Canadian Forces Reorganization Act, which came into force on Feb. 1, 1968, "unified" the Royal Canadian Navy, the Canadian Army and the Royal Canadian Air Force into a single service called the Canadian Armed Forces.

Effective Aug. 1, 1964, the Headquarters of the Royal Canadian Navy, the Canadian Army and the Royal Canadian Air Force were integrated to form a single Canadian Forces Headquarters (CFHQ) under a single Chief of Defence Staff. The role of CFHQ is to provide military advice to the Minister of National Defence and to control and administer the Canadian Forces. CFHQ is organized into four functional Branches headed by the Vice Chief of Defence Staff, the Chief of Personnel, the Chief of Technical Services and the Comptroller General, who are responsible for advising and supporting the Chief of Defence Staff in matters relating to their assigned spheres of activity. The Defence Research Board conducts research relating to the defence of Canada and also undertakes the development of or improvements in materiel.

The civilian administration of the Department is organized under the Deputy Minister and is constituted on a functional basis. The Deputy Minister, assisted by an Associate Deputy Minister, maintains a continuing review and control over the financial aspects of operational policy, logistics, and personnel and administration. Each of three Assistant Deputy Ministers administers a division of the Deputy Minister's Branch responsible for personnel, logistics and finance. Also responsible to the Deputy Minister are the Judge Advocate General, the Departmental Secretary and the Director of Information Services.

* Prepared by the Information Services, Department of National Defence, Ottawa.

The Defence Council meets at regular intervals to consider and advise on major policy matters. The Council consists of: the Minister of National Defence as Chairman; the Deputy Minister of National Defence, the Chief of Defence Staff, the Chairman of the Defence Research Board and the Vice Chief of Defence Staff as members, and a Secretary. The Branch Chiefs at CFHQ and the Vice Chairman of the Defence Research Board are associate members.

Liaison in Other Countries

The Chief of Defence Staff, who is the Canadian military representative to the North Atlantic Treaty Organization, is responsible for advice on all NATO military matters and acts as a military adviser to the Government and to Canadian delegations to NATO.* For purposes of liaison and the furtherance of international co-operation in defence, Canada also maintains: (1) the Canadian Defence Liaison Staff London, representing the Canadian Armed Forces and the Defence Research Board in Britain, the Commander of which is the principal military adviser to the Canadian High Commissioner in London; (2) the Canadian Defence Liaison Staff Washington, representing the Canadian Armed Forces and the Defence Research Board in the United States, the Commander of which is the principal military adviser to the Canadian Ambassador in Washington, and the Canadian National Liaison Representative to SACLANC Headquarters; (3) in Brussels, a Canadian member of the NATO Military Committee in Permanent Session, a Military Adviser to the Canadian Permanent Representative to the North Atlantic Council and also a Canadian National Military Representative to SHAPE; and (4) Canadian Forces Attachés in various countries throughout the world. In addition, a number of defence matters of concern to both Canada and the United States are considered by the Permanent Joint Board on Defence, which provides advice on such matters to the respective governments.

Rates of Pay Issuable to Canadian Forces

The entire pay structure for comparable ranks in the former three services has been and continues on a uniform basis. Tables 1 and 2 contain the monthly rates of pay for officers and men, respectively, effective Oct. 1, 1967. Equivalent ranks for the navy, army and air force are listed following Table 2.

* Canada's contributions to NATO are outlined on p. 180.

**1.—Monthly Rates of Pay for Officers of the Canadian Armed Forces,
Effective Oct. 1, 1967**

Army Rank and Equivalent ¹	Basic	Incentive Pay Category ²							
		1	2	3	4	5	6	7	8
OFFICERS OTHER THAN PILOTS, RADIO NAVIGATORS, MEDICAL, DENTAL AND LEGAL									
	\$	\$	\$	\$	\$	\$	\$	\$	\$
2nd Lieutenant.....	369 ³	...	...	...	...	...	...	...	...
Lieutenant.....	563	603	618	...	...	...	...	...	...
Lieutenant commissioned from the ranks.....	672	692	712	732	752	...	...	...	...
Captain.....	727	752	777	802	827	852	877	...	...
Major.....	931	961	991	1,021	1,051	1,081	...	...	...
Lieutenant-Colonel.....	1,130	1,165	1,200	1,235	1,270	...	...	...	...
Colonel.....	1,404	1,449	1,494	...	...	...	...	...	...
Brigadier.....	1,675	1,725	1,775	...	...	...	...	...	...
Major-General.....	1,980	...	...	...	...	...	...	...	...
Lieutenant-General.....	2,167	...	...	...	...	...	...	...	...

For footnotes, see end of table.

RATES OF PAY FOR OFFICERS OF THE CANADIAN ARMED FORCES 1159

1.—Monthly Rates of Pay for Officers of the Canadian Armed Forces, Effective Oct. 1, 1967—concluded

Army Rank and Equivalent ¹	Basic	Incentive Pay Category ²							
		1	2	3	4	5	6	7	8
PILOTS									
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Lieutenant.....	716	781	796	...	...	...	...	...	...
Lieutenant commissioned from the ranks.....	842	867	902	937	972	...	...	...	...
Captain.....	892	922	962	1,002	1,042	1,082	1,122	1,142	1,162
Major.....	1,117	1,147	1,177	1,207	1,237	1,267	...	...	...
Lieutenant-Colonel.....	1,286	1,321	1,356	1,391	1,426	...	...	...	...
Colonel.....	1,482	1,527	1,572	...	...	...	...	...	...
RADIO NAVIGATORS									
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Lieutenant.....	694	759	774	...	...	...	...	...	...
Lieutenant commissioned from the ranks.....	779	804	839	874	909	...	...	...	...
Captain.....	833	863	903	943	983	1,023	1,063	1,083	1,103
Major.....	1,009	1,039	1,069	1,099	1,129	1,159	...	...	...
Lieutenant-Colonel.....	1,208	1,243	1,278	1,313	1,348	...	...	...	...
Colonel.....	1,482	1,527	1,572	...	...	...	...	...	...
MEDICAL									
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Captain.....	920	960	1,020	1,085	1,133	1,181	1,229	1,276	...
Major.....	1,232	1,280	1,328	1,376	1,424	1,473	...	...	...
Lieutenant-Colonel.....	1,428	1,476	1,524	1,572	...	...	...	...	...
Colonel.....	1,564	1,605	1,647	...	...	...	...	...	...
Brigadier.....	1,779	1,821	1,862	...	...	...	...	...	...
DENTAL									
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Captain.....	920	954	988	1,026	1,064	1,121	1,169	...	...
Major.....	1,077	1,125	1,173	1,221	1,269	1,316	...	...	...
Lieutenant-Colonel.....	1,329	1,377	1,425	1,474	...	...	...	...	...
Colonel.....	1,419	1,467	1,515	1,563	...	...	...	...	...
LEGAL									
	\$	\$	\$	\$	\$	\$	\$	\$	\$
Lieutenant.....	607	...	...	...	...	...	...	...	...
Captain.....	727	739	752	764	777	805	...	...	...
Major.....	931	946	961	983	1,021	1,081	1,120	1,175	...
Lieutenant-Colonel.....	1,198	1,246	1,294	1,342	1,422	1,471	...	...	...
Colonel.....	1,562	1,657	1,752	...	...	...	...	...	...
Brigadier.....	1,831	1,881	1,931	...	...	...	...	...	...

¹ Equivalent ranks are given on p. 1161.

² Incentive pay increases, at rates that vary with length of service, may be granted to an officer when he has met predetermined performance standards.

³ \$427 payable

to a 2nd lieutenant who was a married officer or man prior to Oct. 1, 1966.

**2.—Monthly Rates of Pay for Men of the Canadian Armed Forces,
Effective Oct. 1, 1967**

Army Rank and Equivalent ¹	Pay Level	Incentive Pay Category ²	Pay Field				
			3	4	5	6	7
			\$	\$	\$	\$	\$
Private.....	Apprentice	...	145	145	145	145	145
Private.....	1	...	215	215	215	215	215
Private.....	2	...	234	234	234	234	234
Private.....	3	...	306	310	314	318	322
Private.....	4	...	348	353	358	363	369
	4	1	365	370	376	382	387
	4	2	385	390	396	402	408
	4	3	410	416	422	428	435
	4	4	420	426	432	438	445
Corporal.....	5(A)	...	450	468	484	501	519
	5(A)	1	453	471	487	504	522
	5(A)	2	456	474	490	507	525
	5(A)	3	459	477	493	510	528
	5(A)	4	462	480	496	513	531
	5(A)	5	465	483	499	516	534
	5(A)	6	468	486	502	519	537
Corporal ¹	5(B)	...	460	478	494	511	529
	5(B)	1	463	481	497	514	532
	5(B)	2	466	484	500	517	535
	5(B)	3	469	487	503	520	538
	5(B)	4	472	490	506	523	541
	5(B)	5	475	493	509	526	544
	5(B)	6	478	496	512	529	547
Sergeant.....	6(A)	...	507	524	542	559	577
	6(A)	1	512	529	547	564	582
	6(A)	2	517	534	552	569	587
	6(A)	3	522	539	557	574	592
	6(A)	4	527	544	562	579	597
	6(A)	5	532	549	567	584	602
	6(A)	6	537	554	572	589	607
Staff Sergeant.....	6(B)	...	537	554	572	589	607
	6(B)	1	542	559	577	594	612
	6(B)	2	547	564	582	599	617
	6(B)	3	552	569	587	604	622
	6(B)	4	557	574	592	609	627
	6(B)	5	562	579	597	614	632
	6(B)	6	567	584	602	619	637
Warrant Officer Class 2.....	7	...	585	602	619	636	653
	7	1	592	609	626	643	660
	7	2	599	616	633	650	667
	7	3	606	623	640	657	674
	7	4	613	630	647	664	681
	7	5	620	637	654	671	688
	7	6	627	644	661	678	695
Warrant Officer Class 1.....	8	...	670	690	710	730	750
	8	1	679	699	719	739	759
	8	2	688	708	728	748	768
	8	3	697	717	737	757	777
	8	4	706	726	746	766	786
	8	5	715	735	755	775	795
	8	6	724	744	764	784	804

¹ Equivalent ranks are given on p. 1161. ² Incentive pay increases, at rates that vary with length of service, may be granted to a man when he has met predetermined performance standards; it is payable after one year of service except for "Private" at pay level 4 (see footnote ³). ³ Payable on completion of seven years service in the force.

⁴ Rate 5(B) applies to Corporals who are appointed to specific establishment positions that entail additional responsibility.

Equivalent Rank—Navy, Army and Air Force

<u>Navy</u>	<u>Army</u>	<u>Air Force</u>
Ordinary Seaman } (all classifica- Able Seaman } tions)	Private (all classifications)	Aircraftsman (all classifications)
Leading Seaman.....	Corporal.....	Corporal
Petty Officer, 2nd Class.....	Sergeant.....	Sergeant
Petty Officer, 1st Class.....	Staff Sergeant.....	Flight Sergeant
Chief Petty Officer, 2nd Class....	Warrant Officer, Class 2.....	Warrant Officer, Class 2
Chief Petty Officer, 1st Class....	Warrant Officer, Class 1.....	Warrant Officer, Class 1
Midshipman.....	—	—
Naval Cadet.....	Officer Cadet.....	Officer Cadet
Acting Sub-Lieutenant.....	2nd Lieutenant.....	Pilot Officer
Sub-Lieutenant and Commissioned Officer.....	Lieutenant.....	Flying Officer
Lieutenant.....	Captain.....	Flight Lieutenant
Lieutenant-Commander.....	Major.....	Squadron Leader
Commander.....	Lieutenant-Colonel.....	Wing Commander
Captain.....	Colonel.....	Group Captain
Commodore.....	Brigadier.....	Air Commodore
Rear-Admiral.....	Major-General.....	Air Vice Marshal
Vice-Admiral.....	Lieutenant-General.....	Air Marshal
Admiral.....	General.....	Marshal of the Royal Canadian Air Force

Allowances Issuable to Canadian Forces.—The following are the most common entitlements, aside from pay, for members of the regular Forces. Other entitlements related to special duties and to the Reserve Forces are not shown.

Aircrew Allowance.—Aircrew allowance in varying amounts may be paid to a member of aircrew, or an officer or man undergoing flying training to become a pilot, navigator or other member of aircrew if he is not already receiving the special rate of pay applicable to pilots or navigators.

Outfit Allowance and Clothing Upkeep Allowance.—Officers receive a single payment of \$450 on appointment and Warrant Officers Class 1 receive \$270. Men receive a free issue of clothing on joining and thereafter a monthly clothing upkeep allowance of \$7; Navy Petty Officers 1st Class and above receive \$8. Women receive a free issue of clothing on joining with an underclothing allowance of \$15, and thereafter a monthly clothing allowance of \$8.

Foreign Allowances.—Officers and men posted for duty to a country outside of Canada are entitled to allowances to compensate for additional living expenses or hardships incurred; these vary with rank, appointment and location.

Isolation Allowance.—Isolation allowance, at rates which depend on the specific location, is paid to personnel serving at isolated posts in Canada.

Submarine Allowance.—An officer or man undergoing submarine training or filling an appointment in a submarine receives from \$32.50 to \$115 a month, depending on rank.

Risk Allowance.—An officer or man actively engaged or undergoing training as a parachutist or on flying duties, and not entitled to aircrew allowance, is paid risk allowance at the rate of \$30 a month.

Sea Duty Allowance.—An officer or man serving in a ship is entitled to sea duty allowance at the rate of \$15 a month.

Section 2.—The Command Structure of the Canadian Forces

The Canadian Forces are organized on a functional basis to reflect the major commitments assigned by the Government. Under this concept, all Forces devoted to a primary mission are grouped under a single commander who is assigned sufficient resources to discharge his responsibilities. Specifically, the Canadian Forces are formed into nine major organizational entities reporting to the Chief of the Defence Staff. These are as follows:—

MOBILE COMMAND

The role of Mobile Command is: to provide military units suitably trained and equipped to support United Nations or other peacekeeping/peace-restoring operations; to provide ground forces, including tactical air support for the protection of Canadian territory; and to maintain operational readiness of combat formations in Canada required for support of overseas commitments.

The Forces assigned include: three infantry brigade groups in Canada; the United Nations Force in Cyprus; one RCAF Reconnaissance Squadron; and one Transport Helicopter Platoon. Two of the brigade groups in Canada are being reorganized to perform a wide variety of roles and will be provided with air-portable equipment.

4 CIBG is the Canadian contribution to NATO ground forces in Europe. It also contains a surface-to-surface missile (Honest John) battery in addition to the normal artillery field regiment.

MARITIME COMMAND

All Canadian Maritime forces, both sea and air, are under the Commander, Maritime Command, whose Headquarters are in Halifax. The Deputy Commander is the Commander, Maritime Forces Pacific, with Headquarters in Esquimalt.

The role of Maritime Command is to defend Canadian interests from assault by sea and to support NATO by assisting in conducting anti-submarine warfare in the Allied Command, Atlantic. The Commander, Maritime Command is the NATO Commander of the Canadian Atlantic Sub-Area of the Western Atlantic Command, under the Supreme Commander, Allied Command Atlantic (SACLANT). An additional role is to provide any sea-lift required by Mobile Command.

Available to the Maritime Command are one aircraft carrier, one operational support ship, two escort maintenance ships, 22 escorts of destroyer type, three submarines and six minesweepers; 12 *Tracker* aircraft and six *Sea King* helicopters are carried in HMCS *Bonaventure*, nine destroyers can each take one *Sea King*, and a further 12 *Trackers* operate from shore in conjunction with the main Maritime patrol force of four squadrons, three equipped with *Argus* aircraft and one with *Neptune*. Two further squadrons of aircraft provide training and communication facilities within the Command.

1 AIR DIVISION

1 Air Division is the Canadian contribution to the strike-reconnaissance forces available to SACEUR. The Division is operationally responsible to 4 Allied Tactical Air Force (4 ATAF) and has six squadrons equipped with CF-104 *Super Starfighters* located at three airfields in Germany.

AIR DEFENCE COMMAND

Air Defence Command participates jointly with the United States in the air defence of North America, through NORAD. It has functional control of three interceptor squadrons, two SAM squadrons, one SAGE control centre and two transcontinental radar lines. Operational control is exercised by HQ NORAD.

AIR TRANSPORT COMMAND

The role of Air Transport Command is to provide air transport support to Canadian Forces everywhere, and to conduct search and rescue operations in the Eastern Search and Rescue Area (roughly, Ontario and Quebec). It has four squadrons operating short-range and long-range cargo and troop-carrying aircraft as well as communications and rescue units.

TRAINING COMMAND

The role of Training Command is to provide individual training for the Forces and to conduct search and rescue operations within the Western Search and Rescue Area (roughly, Manitoba, Saskatchewan and Alberta). All former training units of the RCN, the Canadian Army and the RCAF where individual training is carried out have been placed under functional control of Training Command. The Canadian Services Colleges (Royal Military College, Royal Roads and Collège militaire royal de Saint-Jean), the Staff

Colleges, and medical/dental training are under the direct control of Canadian Forces Headquarters (see pp. 1168-1169). Land/Air Warfare operational training and basic parachute training are the responsibility of Mobile Command. Basic fixed wing and helicopter pilot training are a Training Command responsibility.

THE CANADIAN FORCES COMMUNICATIONS SYSTEM (CFCS)

The role of the CFCS is to provide fixed communications networks for the Forces and to provide a national communications system for survival operations (civil defence). To carry out this role, CFCS commands all fixed communications installations within Canada.

THE RESERVE AND SURVIVAL ORGANIZATION

The Command and administration of the Reserves and Cadets is the responsibility of the Deputy Chief of Reserves (Major-General) at CFHQ. The Naval Reserve reports to the Deputy Chief of Reserves through the Commander, Naval Reserve. The Militia and Cadets are commanded and administered through five Region Headquarters and seven District Headquarters that are organized on a geographical basis. The Air Reserve reports through the Commander, Air Transport Command.

The role of the organization is to provide Reserve forces-in-being to support the Regular Forces under their functional commanders; a training force to support the Regular Forces; aid to the civil power; emergency forces for civil emergency operations—peace and war; and provincial representation.

MATERIEL COMMAND

The role of Materiel Command is to provide logistic support of the Forces, i.e., procurement, provisioning and supply of materiel. To carry out this role, Materiel Command controls the operations of naval dockyards, ordnance depots, engineer depots, supply depots, repair depots and base workshops in Canada.

Administration of Military Bases in Canada

Staffs and services required below Command Headquarters level to administer and support units based in a particular locality have been organized on Canadian Forces bases. The primary role of each base is to provide base-level administration and supporting services to those units located on or near the base. Each base has been allocated to a functional commander, to whom the base commander reports. The base commander is provided with sufficient staff, with representation from the four functional branches, to command and administer the base.

Section 3.—Operations and Training of the Canadian Forces

The Royal Canadian Navy

The Fleet.—As of December 1967, the RCN had 30 ships in commission and 12 in reserve. HMCS *Onondaga* joined the fleet in October and the third Oberon Class conventional submarine was expected to commission in June 1968. The extensive refit of the aircraft carrier *Bonaventure* was completed in September 1967 and it began operating out of Halifax. The modernization of *Terra Nova* was progressing, scheduled for completion by mid-1968, and plans were made to start the program of converting the remaining six ships of this class in 1969. A serious fire in the hydrofoil *Bras d'Or* prevented trials being conducted in 1967. Construction of the research vessel *Quest* was expected to be completed in the spring of 1969 and construction of the two operational support ships was progressing—*Protecteur* being scheduled for completion in June 1969 and *Preserveur* five months later. Negotiations for the building of four new destroyer escorts were nearing completion, with construction of these gas-turbine-powered ships expected to begin early in 1968. By the end of 1967, all the World War II frigates had been offered for disposal except HMCS *Granby*, which is the base for the East Coast diving school.

Training.—The major training establishments of the RCN are CFB Cornwallis near Digby, N.S.; Fleet School Shearwater near Dartmouth, N.S.; Fleet School Halifax at Halifax, N.S.; CFS Gloucester near Ottawa, Ont.; and Fleet School Esquimalt at Esquimalt, B.C.

Men and women entering the RCN receive their basic training at CFB Cornwallis where the courses are normally 14 weeks in length. English language training is provided for French-speaking recruits at CFB St. Jean, Que., the courses lasting an average of 21 weeks. Cadets entered under the Regular Officer Training Plan (ROTP) or the University Training Plan (Men) (UTP) receive most of their early training at the Canadian Services Colleges (see p. 1168) or a Canadian University; those entered on a short-service appointment train at Venture Division, Fleet School Esquimalt. All cadets receive practical training with the Fleet at various times of the year. A University Naval Training Division program provides junior officers for the RCN and the RCN Reserve. The cadets are required to complete two winter-training periods, two summer-training periods and certain specified courses. This program is being phased out during 1968 and a new system to produce officers for the Reserve from university undergraduates is being developed.

Royal Canadian Naval Reserve.—Recruiting and training of officers and men of the Royal Canadian Naval Reserve is conducted mainly through 16 Naval Reserve Units across Canada under the Commander, Naval Reserve, who is also the Director General, Reserves, located at CFHQ, Ottawa. Naval Reserve Units are established at the following centres:—

St. John's, Nfld., HMCS *Cabot*
 Halifax, N.S., HMCS *Scotian*
 Saint John, N.B., HMCS *Brunswick*
 Quebec, Que., HMCS *Montcalm*
 Montreal, Que., HMCS *Donnacona*
 Toronto, Ont., HMCS *York*
 Ottawa, Ont., HMCS *Carleton*
 Kingston, Ont., HMCS *Cataragui*

Hamilton, Ont., HMCS *Star*
 Windsor, Ont., HMCS *Hunter*
 Port Arthur, Ont., HMCS *Griffon*
 Winnipeg, Man., HMCS *Chippawa*
 Saskatoon, Sask., HMCS *Unicorn*
 Calgary, Alta., HMCS *Tecumseh*
 Vancouver, B.C., HMCS *Discovery*
 Esquimalt, B.C., HMCS *Malahat*

Naval Reserve Units are commanded by Reserve officers and provide both basic and specialized training for officers and men of the Naval Reserve. The Great Lakes Training Centre at Hamilton, Ont., conducts new-entry Reserve training ashore and afloat during the summer months.

The Canadian Army

Operations in 1967.—In fulfilment of military obligations under the North Atlantic Treaty, Canada continued to provide ground forces for the defence of Western Europe. The 4th Canadian Infantry Brigade Group, the major units of which were the Lord Strathcona's Horse (Royal Canadians), the 1st Regiment Royal Canadian Horse Artillery, No. 1 Surface to Surface Missile Battery, 2nd Battalion The Royal Canadian Regiment, 2nd Battalion Princess Patricia's Canadian Light Infantry, and the 2nd Battalion Royal 22^e Regiment (replaced by the 1st Battalion in late 1967), constituted the Land Forces contribution to NATO in Germany. The Headquarters of the Brigade is at Soest and the married quarters are located in the vicinity of Soest, Werl, Hemer and Iserlohn. Canada also provides two infantry battalions to the Allied Command Europe Mobile Forces (Land Component). They are stationed in Canada but held in readiness for employment should the Mobile Force be activated.

The Canadian Armed Forces continued to provide forces in support of United Nations operations as follows: (1) a force of 880 officers and men formed part of the UN Force in Cyprus; the Canadian contribution consisted of a reconnaissance squadron, an infantry battalion, a Canadian Contingent Headquarters and a Canadian element for the UN Headquarters; (2) Canadian Armed Forces contributions to other UN missions included some 40 officers and men employed in Palestine, Kashmir and Korea; and (3) a specially trained and equipped infantry battalion is maintained in Canada to provide a force for service in support of the UN in any part of the world on short notice.

In addition to its UN commitments, the Canadian Armed Forces, as a result of Canadian participation in the International Commissions for Supervision and Control in Viet-Nam, Cambodia and Laos, continued to provide approximately 50 officers and men for truce supervisory duties in Indo-China.

Canadian Armed Forces training teams are being maintained in Ghana and Tanzania to assist in the training of the armed forces of those countries. A number of officer cadets and other ranks from Ghana, Tanzania, Barbados, Jamaica, Trinidad and Tobago, Malaysia and Zambia have received training in Canadian Forces schools.

Training.—Most of the recruit, basic and advanced training in support of the Canadian Army Regular takes place at schools under the supervision of Training Command. During 1967, a training enrolment of 3,415 recruits and the corps training of officers and men of the Army were carried out at regimental depots, units and schools. Sixty-four officers attended the Canadian Army Staff College and 10 commenced courses at Commonwealth Staff Colleges. Qualifying courses for junior and senior NCOs were conducted at Training Command schools. Officers from the RCAF and RCN as well as officers from Australia, Belgium, Britain, Germany, India, Pakistan, Tanzania, Jamaica, Zambia and the United States attended courses at Canadian Forces schools.

English and French language training is available to all ranks at the Canadian Forces School of Languages, CFB St. Jean, Que. Trades training is given at schools and units. When required, the facilities of civilian and allied service schools are used to supplement training at service establishments.

In 1967, the training of the Field Force took place under the direction of Mobile Command. Airborne continuation training was carried out by designated units in conjunction with unit exercises. The air transportable ACE Mobile Force Battalion participated in a winter exercise in Norway under cold-weather conditions. Parachute and air supply courses were conducted at the Canadian Joint Air Training Centre at Rivers, Man., and courses in arctic training at CFB Borden, Ont. Collective training for units in Canada was carried out at CFBagetown, N.B., and CFB Wainwright, Alta. All-arms training comprised sub-unit and unit training, and culminated in exercises at the Brigade Group level.

Under the Regular Officer Training Plan (ROTP), selected students are trained for commissions in the Canadian Forces at the Canadian Services Colleges (see pp. 1168-1169) and at Canadian universities and colleges that have university reserve units. Also, university reserve units form an integral part of the campus life at most universities. These are maintained primarily to produce officers for the Reserve components of the Canadian Forces and include training similar to that given members of the ROTP. This program will be altered in the future; a new system to produce officers in the Reserve from university undergraduates is being developed.

The Militia.—The new precedence of roles of the Militia is: support of the Regular Forces; provision of a training force; and assistance with internal security and the provision of specialists to assist in staffing civil emergency operations installations in times of national emergency. Militia training is intended to produce personnel and units well trained in the basic military skills and techniques of their corps and in the basic skills for survival operations. In consonance with these newly assigned roles, the Militia was extensively reorganized during the period November 1964 to March 1965. Based largely upon recommendations of the Ministerial Commission on the Reorganization of the Canadian Army (Militia), a total of 171 self-accounting units, having an approved establishment of 41,290 all ranks, was authorized. Concurrently, personnel and training policies were revised, with emphasis placed on youth, physical fitness, professional competence and vigorous leadership.

The Royal Canadian Air Force

Operations in 1967.—The RCAF contribution to the air defence of North America during the year consisted of three CF-101B interceptor squadrons, two Bomarc surface-to-air missile squadrons and 27 radar sites. These forces, together with the Distant Early Warning Line (DEW), operated under the operational control of North American Air Defence Command (NORAD). No. 1 Air Division, Canada's NATO contribution in Europe, operated with six squadrons of CF-104 aircraft. Four of these squadrons were employed in the strike attack role and the other two were employed in the photo reconnaissance role.

The RCAF contributed four land-based maritime squadrons to the Maritime Defence of North America; three of these, based on the East Coast, are equipped with *Argus* aircraft, the largest and most modern anti-submarine aircraft in the world. A continuous program of aircraft modernization and re-equipping with improved anti-submarine devices was conducted throughout the year. The East Coast squadrons and the *Neptune* aircraft squadron on the West Coast participated in a number of national, international and NATO anti-submarine exercises, and maintained daily patrols and surveillance of ocean areas adjacent to the Canadian coastlines. Early in 1966, the RCAF Maritime Air Command became an integral part of the new integrated Maritime Command.

Air Transport Command (ATC) continued to provide support to the Air Division and to the Army Brigade in Europe, using long-range *Yukon* and *Hercules* aircraft. Airlift support was provided to the UN Emergency Force Middle East and to the UN contingents in Cyprus. Flying units, operating *Caribou* and *Otter* aircraft, were maintained in Egypt and India/Pakistan in support of UNEF and UNMOGIP. In Canada, ATC airlifted Department of National Defence personnel and cargo from coast-to-coast and into the Arctic regions. *Hercules* aircraft were employed for paratroop training of the Canadian Army, and T-33 aircraft carried out routine photographic missions for the Department. Search and rescue services were provided in the Canadian areas of responsibility. Throughout this year, the RCAF flew more than 6,000 hours on search and rescue missions involving missing persons, aircraft and marine vessels. Altogether, some 2,000 separate incidents were dealt with.

Training.—Each year the RCAF gives basic training to several thousand officers and men to meet retirements, releases and the introduction of new equipment. English language training on initial enlistment is given to French-speaking personnel—at St. Jean, Que., for officers and airmen. Course length is variable, up to an average of 21 weeks. Advanced trades training is given within the Service, training on specialized equipment is obtained also from industrial firms, and some officers attend postgraduate courses at Canadian and United States universities. In addition, aircraft trades training is given to a number of trainees from developing countries.

Aircrew selection is carried out at Aircrew Selection Centre, CFB Toronto, Ont. Indoctrination training for aircrew officer cadets takes place at Venture Division, Fleet School Esquimalt. RCAF pilots are given basic and advanced jet training at Moose Jaw, Sask., and Gimli, Man., and advanced multi-engine training at Portage la Prairie, Man. Radio navigators are trained at Winnipeg, Man. In the year ending Mar. 31, 1968, approximately 180 RCAF pilots and 35 radio navigators will complete training to "wings" standard; pilot training on piston-engined aircraft will be provided for 37 RCN and one CA(R) officer. Under bilateral agreements, jet training will be provided for 24 Danish, 24 Norwegian and two Malaysian pilots; radio navigation training for three Norwegian and four Danish navigators; and basic helicopter training for two Danish naval pilots.

Indoctrination training for newly commissioned non-flying list officers is given at CFB Esquimalt, B.C., and technical training at CFB Clinton, Ont. Basic and advanced trades training for airmen is given at technical trades schools at CFBs Borden and Clinton, Ont. Trade Advancement training to help airmen improve their job proficiency and to qualify for higher trade grouping and pay is provided to Regular and Reserve personnel. Opera-

tional training on specific aircraft and equipment is given at field technical training units and operational training units situated throughout Canada. Semi-annual trade examinations are written under the direction of the Training Standards Establishment, Trenton, Ont.

Air Reserve.—The active sub-components of the Air Reserve are designated as the Auxiliary and the Primary Reserve.

The Auxiliary is made up of four Auxiliary Wing Headquarters located in Montreal, Toronto, Winnipeg and Edmonton and six Flying Squadrons located in the same cities; Wing Headquarters directs the operations, training and administration of the Flying Squadrons in their respective areas. All Flying Squadrons are equipped with the DHC-3 *Otter*. Their role is light transport, civil emergency operations—peace and war, and search and rescue services. Light transport and civil emergency operations exercises are carried out in conjunction with Regular and Reserve formations of the RCN and the Canadian Army as well as the RCAF. Search and rescue operations are usually carried out in accompaniment with civilian and RCAF Regular counterparts. In the event of emergency, these squadrons would be used to support military and civilian requirements.

The Primary Reserve is composed of Air Cadet Officers who staff the Royal Canadian Air Cadet Squadrons throughout Canada, of Manning Support Officers who are employed for 15 to 30 days each year in career counselling duties at recruiting units, and of University Squadron Staff Officers whose main function is to train members of the University Reserve Training Plan (URTP) during the academic year. The URTP will be altered in the future. Studies are in progress to develop a new system to produce officers for the Reserves based on utilization of undergraduates.

The Canadian Armed Forces Cadets

The object of the cadet movement in Canada is to provide the opportunity for young men, aged from 13 to 18, to acquire the fundamentals of good citizenship and leadership. This is achieved by a combination of training at the local cadet units and at summer camps. In keeping with the unified concept of the Canadian Armed Forces, the Sea, Army and Air Cadet organizations have integrated the command and control functions of their respective organizations and adopted a common aim: "To develop in youth the attributes of good citizenship and leadership; to promote physical fitness; and to stimulate their interest in the Sea, Land and Air elements of the Canadian Forces".

Royal Canadian Sea Cadets.—Royal Canadian Sea Cadets, sponsored by the Navy League of Canada in partnership with the Canadian Forces, comprise 169 corps. These corps are supervised jointly by the local branches of the League, and by naval officers in each of Canada's five military regions.

Instruction at corps level is carried out by Royal Canadian Sea Cadet Officers. Two training establishments—Cornwallis on the East Coast and Quadra on the West Coast—accommodate officers and cadets for two-week training periods in the summer. In addition, selected cadets receive a six-week training course at naval establishments. Sea experience is provided throughout the year in HMC Ships. As of Sept. 30, 1967, the strength of the corps was 1,025 officers and 10,856 cadets.

Royal Canadian Army Cadets.—Supervision of organization and training of Army Cadets is carried out by the Region and District Regular Force staff. The training and administration is the responsibility of officers of the Cadet Services of Canada, a sub-component of the Reserves and civilian instructors. As of Sept. 30, 1967, officers and civilian instructors numbered 2,047, and there were 57,161 cadets enrolled in 498 corps.

In 1967, 4,830 cadets attended six-week trades and specialist courses at Aldershot, N.S., Farnham, Que., Ipperwash Beach, London and CFB Borden, Ont., Clear Lake, Man., Calgary, Alta., and Vernon, B.C.; 2,023 cadets attended two-week cadet leader and special camps at Aldershot, N.S., Montreal, Que., Ipperwash Beach and Sandstone Lake, Ont.,

Clear Lake and Rivers, Man., and Albert Head, B.C.; 220 master cadets, one officer and six cadets from Britain attended the Banff National Army Cadet Camp, Alta., for four weeks; 61 cadets proceeded on an exchange of cadets between Canada and Barbados, Jamaica, Trinidad, Tobago and Grenada during the summer of 1967 and one officer and six cadets attended the Outward Bound Course in Towyn, Wales; 275 cadet instructors attended qualifying courses of up to six weeks and 428 cadet instructors were employed in training and administrative duties at summer camps.

Royal Canadian Air Cadets.—The Cadet Services of Canada provides training personnel, syllabi and equipment and assistance in organization and administration, and the Air Cadet League of Canada sponsors and administers the Cadet activities.

During the summer of 1967, camps were conducted at Canadian Forces Bases at Greenwood, N.S., St. Jean, Que., Trenton, Ont., and Penhold, Alta., attended by more than 7,000 cadets. The camp at St. Jean, designated the Centennial Air Cadet camp, was the hub of an interprovincial exchange program. A seven-week Senior Leaders Course was conducted at CFB Borden, Ont., for 240 cadets. A Bush Familiarization Course, teaching the techniques of survival and ground search was conducted at CFB Namao, Alta., for 54 cadets. Under the International Air Cadet Exchange Visits Program for 1967, 62 Air Cadets were exchanged with Austria, Belgium, Britain, France, the Netherlands, Norway, Sweden, Switzerland, Turkey, the United States and West Germany. In 1967, 250 Senior Air Cadets received flying training at flying clubs through Service-sponsored scholarships; 83 additional scholarships were awarded by the Air Cadet League and other organizations. Successful graduates qualify for a Private Pilot Licence. Air Cadet strength at Sept. 30, 1967 was 28,000 cadets in 274 squadrons across Canada.

Section 4.—Services Colleges and Staff Training Colleges

Canadian Services Colleges

The three Canadian Services Colleges are the Royal Military College of Canada founded at Kingston, Ont., in 1876, Royal Roads which was established in 1941 near Victoria, B.C., as a school for naval officers, and Collège militaire royal de Saint-Jean established at St. Jean, Que., primarily to meet the needs of French-speaking cadets. The Royal Military College and Royal Roads were constituted as Canadian Services Colleges in 1948, and Collège militaire royal de Saint-Jean was opened in 1952. In 1959, the Legislature of the Province of Ontario granted the Royal Military College a charter empowering it to grant degrees.

The purpose of the instruction and training at the Services Colleges is to impart the knowledge, to teach the skills and to develop the qualities of character, loyalty and leadership essential to officers of the Armed Forces. The courses of instruction provide a sound and balanced liberal, scientific and military education leading to degrees in arts, science and engineering which are granted by the Royal Military College.

For cadets entering the Royal Military College and Royal Roads, the duration of the course is four years. As the third and fourth years of the course are given only at the Royal Military College, cadets entering Royal Roads must proceed to that College for the final years of the arts, science or engineering courses. For cadets entering Collège militaire royal de Saint-Jean, which gives a preparatory year, the duration of the course is five years. Cadets take the preparatory, first and second years at that institution and the final two years at the Royal Military College.

For admission to the Royal Military College of Canada and to Royal Roads, an applicant must have obtained senior matriculation or equivalent standing. For admission to Collège militaire royal de Saint-Jean, an applicant must have junior matriculation or equivalent. A candidate who has obtained a Bachelor of Arts degree at a classical college or has completed first year science or philosophy II at Collège Mont Saint-Louis may

apply for entry into first year at Collège militaire royal de Saint-Jean. A candidate must be single, a Canadian citizen, and be physically fit. The age limits for admission to the first year are between 16 and 21 years as of Jan. 1 of the year of entry; for admission to the preparatory year a cadet must have reached his 16th but not his 20th birthday on Jan. 1 of the year of entry.

Most cadets entering the Services Colleges enrol under the Regular Officer Training Plan. Applicants accepted enrol according to their choice, as cadets in the Royal Canadian Navy, the Canadian Army or the Royal Canadian Air Force. Costs of tuition, uniforms, books, instruments and other fees are borne by the Department of National Defence and cadets are paid \$180 a month. Cadets are charged \$85 a month for board and lodging. On successfully completing their academic and military training, cadets are granted permanent commissions in the Regular Force.

A limited number of high school students may be selected to enter the Services Colleges on payment of tuition fees, etc. Graduates are granted commissions and serve in the Reserve components of the Forces. Young men who qualify for Dominion Cadetships also serve in a reserve capacity. These Cadetships are awarded by the Federal Government in recognition of a candidate's parent having been killed, died or been severely incapacitated in the service of one of Canada's Armed Forces or the Canadian Merchant Marine during hostilities. A maximum of 15 Dominion Cadetships may be awarded in any one year, five in each Service. Each is valued at \$580, which covers first-year fees.

During the 1967-68 academic year, 1,169 cadets were in attendance at the Services Colleges, 564 of them at the Royal Military College, 222 at Royal Roads and 383 at Collège militaire royal de Saint-Jean. Of the total, 253 were enrolled in the Navy, 411 in the Army and 505 in the Air Force.

Staff Training Colleges

The Canadian Army Staff College at Kingston, Ont., gives an 11-month course for the training of officers for staff appointments. Although most of the student body is composed of Canadian Army officers, officers from the other two Services and from the armies of other Commonwealth and NATO countries also attend. Instruction is based upon the study of précis and references, demonstrations and lectures, and indoor and outdoor exercises. Aside from purely military subjects, the curriculum includes research and development, world affairs and lectures by prominent guest speakers.

The Canadian Forces College at Armour Heights, Toronto, Ont., consists of three colleges for the staff training of officers:—

Staff College.—Officers of Major (equivalent) rank take a 44-week course to prepare them for assumption of higher rank in the Canadian Armed Forces. Training emphasizes logical and precise written and oral expression of ideas; staff and administrative procedures; scientific and technical developments; and national and international current affairs. The syllabus is supported by a variety of expert military and civilian guest lecturers and visits to Canadian and United States military and civilian establishments.

Staff School.—Officers of Captain and Lieutenant (equivalent) rank take a 14-week course to prepare them to assume junior staff and administrative positions in the Canadian Armed Forces. Training emphasizes military administrative procedures; the conduct of correspondence; and civil and military organization. Students also study national and international current affairs.

Extension School.—Selected military and academic courses of study by correspondence are offered to all officers of the Canadian Armed Forces.

National Defence College at Kingston, Ont., the senior defence college, provides an 11-month course of study covering the economic, political and military aspects of the defence of Canada. Senior officers and civil servants from the Armed Forces and Federal Government departments attend, as well as a few representatives from industry. Lecturers are chosen from among the leaders in various fields in Canada and other countries. In addition, tours and visits to certain parts of Canada, the United States, Europe, Asia, Africa, Australia and Latin America familiarize students with conditions and influences in their own and other countries.

Section 5.—The Defence Research Board

The Defence Research Board is the agency in the Department of National Defence responsible for scientific research. It was created in 1947 by an amendment to the National Defence Act. It provides, through the Chairman, scientific advice to the Minister of National Defence and scientific and technical assistance to the Canadian Armed Forces.

The Board consists of a full-time chairman and vice-chairman, five ex-officio members and a varying number of members selected from universities and industry appointed by the Governor in Council. The ex-officio members are the Deputy Minister of National Defence, the President of the National Research Council, the Chief of Defence Staff, the Vice Chief of Defence Staff and the Chief of Technical Services. The Chairman is the chief executive officer of the Board's research organization. He is a member of the Defence Council, which is the senior policy body of the Department of National Defence. The Vice-Chairman is an associate member.

The research organization consists of eight research establishments in which an intramural program of research specifically oriented toward military needs is carried out. The Board also conducts an extramural research program through grants in aid of research to universities. These investigations are usually basic in nature and seek to provide new knowledge in fields from which important military developments are likely to arise. Support is also provided to industry with the object of promoting and strengthening the research capability of Canada's defence industry. This is a program of applied research of defence interest. It is financed on a cost-sharing basis with industry with each (government and industry) providing 50 p.c. of the funds.

The Defence Research Board is active in international collaboration in defence science throughout the western world. A very active quadripartite organization with Britain, Australia and the United States has been built up to ensure full utilization of defence scientific knowledge, resources and facilities of these countries. In addition, bilateral agreements with several NATO nations serve to enhance the interchange of defence scientific and technical knowledge in areas of mutual interest. The Board represents Canada on a number of specialist committees through which NATO's scientific endeavours are processed and co-ordinated. The Board also provides representation on the Commonwealth Defence Science Organization which fosters and promotes scientific exchange between the countries of the Commonwealth. It maintains liaison offices in Washington, London and Paris.

Research on maritime warfare problems, particularly those relating to submarine detection and tracking, is carried out at the Defence Research Establishment Atlantic and at the Defence Research Establishment Pacific. Research and development of weapons and defence against various weapons is undertaken in co-operation with the Armed Forces at several establishments, the largest of which is the Canadian Armament Research and Development Establishment. Its principal activities include studies of defence against missiles, studies of the properties and application of infrared and other detection devices, exploration of the upper atmosphere with balloons and rockets, and the development of rocket propellants.

The Defence Research Telecommunications Establishment is concerned mainly with problems of communications which involve exploration of the ionosphere with ground-based equipment, with rockets and with satellites, and the applications of the science of electronics to military problems. Research on the defensive aspects of chemical, biological and atomic weapons is carried out at two Defence Research establishments—the Defence Chemical, Biological and Radiation Establishment at Ottawa, and the Defence Research Establishment Suffield at Ralston, Alta. The Defence Research Establishment Toronto is concerned with biosciences research, chiefly with raising the operating efficiency of men working in the military environment, including such subjects as human physiology, experimental psychology and research on clothing. Defence Operational Research Establishment provides scientific evaluation and analysis of present and future weapons systems, tactical doctrine and other aspects of military operations.

Thus, the Board continues to support the fields of research which are of foremost interest to the Canadian Armed Forces and the program is under continuing review to ensure that cognizance is taken of all changes in emphasis in defence requirements. Close liaison is maintained between the Defence Research Board and the Department of Defence Production to ensure that research and development activities are closely integrated with production.

PART II.—DEFENCE PRODUCTION*

Under the provisions of the Defence Production Act (RSC 1952, c. 62, as amended), the Department of Defence Production has exclusive authority to procure the goods and services required by the Department of National Defence and the responsibility to ensure that the necessary productive capacity, capability and materials are available to support the defence production program. The latter responsibility includes defence development and production-sharing with the United States, defence production export activities with NATO and other friendly countries, and co-operation in research, development and production programs within the NATO alliance. The Department also provides management and staff for the Canadian Commercial Corporation, a Crown company primarily responsible for the contracting in Canada for defence goods purchased by other governments and for contracting for supplies to meet Canadian requirements under External Aid Programs and other international agreements. The Department is responsible for planning and making other necessary arrangements for the immediate establishment of a war supplies agency, should there be a nuclear attack.

Implementing recommendations of the Royal Commission on Government Organization, the Government assigned to the Department of Defence Production the responsibility for forming a central purchasing and supply agency. The plan of organization for a future Department of Supply prepared by the Department requires the integration of the purchasing organization of Defence Production with supply functions. The supply functions were grouped with regional purchasing functions of Defence Production and the Canadian Government Repair Service to form the Canadian Government Supply Service.

Procurement contracts issued by the Department of Defence Production had a net value of \$1,030,848,000 in 1966 and \$530,729,000 in the first half of 1967. (The net value of contracts is made up of the value of new contracts issued as well as amendments that increased or decreased existing contracts.) The net value of contracts in 1966 according to the various services for which they were issued was as follows:—

<i>Source</i>	<i>Net Value</i>	<i>P.C. of Total Value</i>
	\$'000	
Department of National Defence.....	710,838	68.96
Department of Defence Production (DDP Votes).....	8,156	0.79
Foreign Governments.....	186,068	18.05
External Aid.....	35,421	3.44
Federal Civil Departments and Agencies.....	90,365	8.76
TOTALS.....	1,030,848	100.00

The \$710,838,000 in contracts placed on behalf of the Department of National Defence in 1966 was 50.1 p.c. higher than the value in 1965. There were increases of \$157,980,000 in the aircraft program, \$41,765,000 in the shipbuilding program, and \$17,570,000 in the armament program, and smaller increases in the tank-automotive program and the electronics and communications equipment program of \$2,235,000 and \$2,099,000, respectively.

Contracts placed outside Canada on behalf of the Department of National Defence in 1966 amounted to \$130,403,000, which constituted 18.3 p.c. of the total net value of prime contracts issued. Contracts valued at \$109,468,000 were placed in the United States,

* Prepared in the Information Division, Department of Defence Production, Ottawa.

\$6,035,000 in Britain and \$14,900,000 in other countries. Expenditures on contracts in 1966 amounted to \$483,657,000, an advance of 4.5 p.c. over 1965. Expenditures against tank-automotive programs increased by \$16,647,000 or 110.5 p.c., and against aircraft programs by \$3,162,000 or 2.0 p.c., those against electronics and communications equipment programs decreased by \$1,078,000 or 1.1 p.c.

Of the \$530,729,000 in contracts issued during the first half of 1967, \$343,405,000 or 64.7 p.c. was for the Department of National Defence. Expenditures against prime contracts placed for that Department stood at \$253,483,000. The Department of Defence Production placed \$8,156,000 in contracts in 1966 and \$6,906,000 in the first half of 1967 against certain appropriations to assist Canadian defence industry. Revolving Fund contracts amounted to \$42,050,000 in 1966 and \$30,600,000 in the first half of 1967.

Contracts placed for all sources other than the Departments of National Defence and Defence Production votes totalled \$311,854,000 in 1966, of which \$186,068,000 was for foreign governments, \$90,365,000 was for civilian departments and agencies of the Canadian Government, and \$35,421,000 was for External Aid programs. For the first six months of 1967 contracts placed for foreign governments amounted to \$108,550,000, for Canadian non-defence Government departments and agencies \$57,068,000, and for External Aid programs \$14,800,000.

Defence Production and Development Sharing.—In 1966, United States defence production-sharing contracts placed with Canadian industry totalled \$317,009,803, an increase of 22 p.c. over 1965. A major factor in the increased procurement was the substantial success achieved by Canadian companies in competition with United States sources in supplying components and assemblies for major aircraft programs such as the C5A transport and F-111 fighter/bomber and for airborne electronic navigation and computer equipment. The total United States defence production-sharing procurement in Canada during the eight years of the program was \$1,491,300,000.

Prime contracts placed by the United States Government with the Canadian Commercial Corporation totalled \$128,900,000 in 1966 and subcontracts received directly by Canadian firms were valued at \$184,677,885. Other prime contracts received directly from the United States Government by Canadian industry and other institutions had a value of \$3,500,000.

In 1966, continued assistance was given to Canadian industry under the development-sharing program for research and development projects of interest to the United States Services; 70 such contracts were in effect, with expenditure totalling \$22,400,000.

Co-operation in NATO and RDP (Research, Development and Production) and Defence Exports Overseas.—Canadian industry is encouraged to participate in supplying the defence needs of friendly European and other countries in such areas as aircraft, aircraft engine spares, training and navigational aids and armament and ammunition components. During 1966, nearly 80 Canadian firms reported the receipt of \$78,322,000 in defence prime contracts and subcontracts from some 40 NATO and other countries (excluding the United States), although over 95 p.c. of this business came from some 13 countries. Of this total, which was an increase of 15.6 p.c. over 1965, prime contracts accounted for \$62,059,000 and subcontracts placed in Canada by overseas defence contractors accounted for \$16,263,000. The major purchases in this group were for *Caribou*, *Twin Otter*, CL-41G and CL-215 aircraft, F-104G simulator spares, navigational equipment for the F-104G and other aircraft, radio relay equipment, spares for vehicles, aircraft engine spares, projectiles and a further contribution to the shared development of the AN/USD-501 surveillance drone.

During 1966, Canadian defence contracts placed in overseas countries on behalf of the Canadian Armed Forces amounted to \$30,071,000, consisting of \$19,918,000 in prime contracts and \$10,153,000 in subcontracts, making a balance in defence contracting of \$48,251,000 in Canada's favour.

PART III.—CIVIL EMERGENCY PLANNING (CIVIL DEFENCE)

The present arrangements for civil emergency planning in Canada took form in 1958 following an analysis by the Canadian Government of the kind of military and civilian arrangements necessary to prepare the nation for the possibility of nuclear war. This review led to a major rearrangement of federal civil defence functions, together with an offer from the Federal Government to assume certain responsibilities previously borne by provinces and municipalities. The reorganization, which became effective Sept. 1, 1959, was based on the principles that (1) civil defence was properly a function or activity of government rather than a separate organization as such, and (2) this function should be divided into clearly defined tasks assigned to the appropriate levels of government, and at each governmental level made the responsibility of those departments or agencies best able to undertake and discharge them.

The Canada Emergency Measures Organization is the federal co-ordinating agency for all civil emergency planning. The Civil Emergency Measures Planning Order (Order in Council PC 1965-1041) dated June 8, 1965, defines the functions of the Canada Emergency Measures Organization, designates it as a department for administrative purposes and places it under the control and supervision of the Minister of Industry. Its functions include:—

- (1) the development of policies and a program to ensure the continuity of government in an emergency;
- (2) the co-ordination of civil emergency planning and training within the Federal Government;
- (3) in conjunction with provincial authorities, the development of policies and a program for the control of civil road transport resources;
- (4) the provision of assistance and guidance to provincial governments and municipalities in respect of the preparation of civil emergency measures in matters that are not the responsibility of a department of the Federal Government;
- (5) the provision of general liaison with other countries and with NATO on matters relating to civil emergency measures; and
- (6) the responsibility for the direction and administration of the Canadian Emergency Measures College at Arnprior, Ont.

The Civil Emergency Measures Planning Order also defines the civil emergency powers, duties and functions of the Ministers of federal departments and agencies having immediate responsibilities in the event of a war emergency. Included in this category are the Departments of Agriculture, Defence Production, External Affairs, Finance, Fisheries, Justice, Labour, Manpower and Immigration, National Defence, National Health and Welfare, Post Office, Public Works, Solicitor General and Transport and the Bank of Canada, the Canadian Broadcasting Corporation, the Central Mortgage and Housing Corporation and the Royal Canadian Mounted Police.

Certain emergency functions of government are a projection of normal provincial peacetime responsibility. The following represent responsibilities of this kind, and are the concern of provincial authorities with such federal assistance as may be necessary:—

- (1) preservation of law and order and the prevention of panic by the use of provincial and municipal police and special constables, with whatever support is necessary and feasible from the Royal Canadian Mounted Police and the Armed Services at provincial request;
- (2) control of road traffic, except in areas damaged or covered by heavy fallout, including special measures to assist in the emergency movement of people from areas likely to be attacked or affected by heavy fallout;
- (3) reception services, including arrangements for providing accommodation, emergency feeding and other emergency supplies and welfare services for people who have lost or left their homes or who require assistance because of the breakdown of normal facilities;
- (4) organization and control of medical services, hospitals and public health measures;
- (5) maintenance, clearance and repair of highways;
- (6) organization of municipal and other services for the maintenance and repair of water and sewerage systems; and
- (7) organization of municipal and other fire fighting services, and control over and direction of these services in wartime, except in damaged or heavy fallout areas, where fire fighting services would be under the direction of the Army as part of the re-entry operation.

CHAPTER XXVII.—OFFICIAL SOURCES OF INFORMATION AND MISCELLANEOUS DATA

CONSPECTUS

	PAGE		PAGE
Part I.—Official Sources of Information.	1174	Part II.—Special Material Published in Former Editions of the Canada Year Book.....	1224
SECTION 1. BOOKS ABOUT CANADA.....	1174	Part III.—Register of Official Appointments.....	1228
SECTION 2. FEDERAL GOVERNMENT INFORMATION SERVICES.....	1191	Part IV.—Order of Canada Awards.....	1236
SECTION 3. SALE OF OFFICIAL PUBLICATIONS	1191	Part V.—Federal Legislation, 1967-68....	1238
DIRECTORY OF SOURCES OF OFFICIAL INFORMATION.....	1193	Part VI.—Canadian Chronology.....	1242

PART I.—OFFICIAL SOURCES OF INFORMATION

Section 1.—Books About Canada

This basic list of books about Canada, contributed by the National Library, includes a selection of publications grouped alphabetically by author and arranged under the subject classifications of Biography, Country and People, Economics, External Relations, Government and Politics, History, Literature and the Arts, and General Reference Works. The selection represents many aspects of Canadian life, emphasizes the latest editions of books published within the past five years, and includes titles issued in either or both English and French, accompanied by the publisher's address.

It should be noted that, although this list is now an annual feature of the Year Book, it is not a cumulative presentation; it is limited to about 480 titles, necessitating the omission of some items that appeared the preceding year to permit the inclusion of others. For additional titles, the reader should consult the lists of books in earlier Year Books or one or more of the bibliographical collections listed below under the heading "General Reference Works", particularly the monthly or annual editions of *Canadiana* published by the National Library.

Biography

- BARRETTE, Antonio. *Mémoires*. T.1. Montréal, Beauchemin, 1966. 448 p.
- BARRETTE, Antonio. *Memoirs*. Translated by Marc SORMONT. Montreal, Beauchemin, 1966. 384 p.
- BEAL, J. R. *The Pearson phenomenon*. Toronto, Longmans, 1964. 210 p.
- BÉCHARD, Henri. *L'héroïne indienne Kateri Tekakwitha*. Montréal, Fides, 1967. 200 p.
- Biographies canadiennes-françaises*. 20^e éd. Montréal, 1965. 1347 p.
- BISHOP, W. A. *The courage of the early morning, a son's biography of a famous father: the story of Billy Bishop*. Toronto, McClelland and Stewart, 1965. 211 p.
- BOND, C. C. J. *Surveyors of Canada, 1867-1967*. Ottawa, Canadian Institute of Surveying, 1966. 154 p.
- BOUCHARD, T. D. *Mémoires de T. D. Bouchard*. Montréal, Beauchemin, 1960. 3 v.
- BRADDON, Russell. *Roy Thomson of Fleet Street*. London, Collins, 1965. 396 p.
- BROWN, Florence M. *Breaking Barriers; Eric Brown and the National Gallery*. Ottawa, Society for Art Publications, 1964. 113 p.

- CAMPBELL, Marjorie Wilkins. *No compromise; the story of Colonel Baker and the CNIB*. Toronto, McClelland and Stewart, 1965. 217 p.
- Canadian writers. *Écrivains canadiens*. A biographical dictionary edited by—un dictionnaire biographique rédigé par Guy SYLVESTRE, Brandon CONRON, C. F. KLINCK. New ed. rev. and enl. Nouv. éd. rev. et augm. Toronto, Ryerson Press, 1966. 186 p. (Articles by French language authors are in French.)
- CARR, Emily. *Hundreds and thousands; the journals of Emily Carr*. Toronto, Clarke, Irwin, 1966. 332 p.
- COPLAND, Alfred. *Livingstone of the Arctic, by Dudley Copland*. Ottawa, 1967. 183 p.
- DANDURAND, Raoul. *Les mémoires du sénateur Raoul Dandurand, 1861-1942*. Édités par Marcel HAMELIN. Québec, Presses de l'Université Laval, 1967. 374 p.
- DESROSIERES, L. P. *Paul de Chomedey, sieur de Maisonneuve*. Montréal, Fides, 1967. 322 p.
- Dictionary of Canadian biography. General editor, G. W. BROWN. Directeur adjoint, Marcel TRUDEL. Vol. 1. 1000 to 1700. Toronto, University of Toronto Press, 1965. (To be complete in 24 v.)
- Dictionnaire biographique du Canada. General editor, G. W. BROWN. Directeur adjoint, Marcel TRUDEL. T. 1. 1000 à 1700. Québec, Presses de l'Université Laval, 1966. (L'ouvrage entier doit comprendre 24 v.)
- DRURY, E. C. *Farmer premier; memoirs of the Honourable E. C. Drury*. Toronto, McClelland and Stewart, 1966. 198 p.
- FALMAGNE, Thérèse. *Un marquis du grand siècle, Jacques-René de Brisay de Denonville, gouverneur de la Nouvelle-France 1637-1710*. Montréal, Éditions Leméac, 1965. 341 p.
- FERGUSON, Max. *And now here's Max*. New York, Toronto, McGraw-Hill, 1967. 167 p.
- FRENCH, Maida P. *Kathleen Parlow; a portrait*. Toronto, Ryerson Press, 1967. 167 p.
- GAGNON, M. A. *Le ciel et l'enfer d'Arthur Buies*. Québec, Presses de l'Université Laval, 1965. 360 p. (Vie des lettres canadiennes, 2)
- GILBERT, Heather M. *Awakening continent; the life of Lord Mount Stephen*. Vol. 1. 1829-91. Aberdeen, Aberdeen University Press, 1965. 314 p. (Vol. 2 will not be completed until the private papers of J. J. Hill are made available in 1981)
- Great Canadians; a century of achievement. Selected by Vincent MASSEY and others. Illustrated by Franklin ARBUCKLE. Toronto, Canadian Centennial Pub. Co., 1965. 122 p. (The Canadian centennial library)
- GRENON, Hector. *Chroniques vécues; des modestes origines d'une élite urbaine*. Montréal, Éditions de l'homme, 1966. 494 p.
- HAMBLETON, Ronald. *Mazo de la Roche de Jalna*. Toronto, General Pub. Co., 1966. 239 p.
- HARVISON, C. W. *The Horsemen*. Toronto, McClelland and Stewart, 1967. 271 p.
- INNIS, Mary Quayle, ed. *The clear spirit; twenty Canadian women and their times*. Toronto, University of Toronto Press, 1966. 304 p. (Includes two chapters in French)
- JACKSON, A. Y. *A painter's country; the autobiography of A. Y. Jackson*. Centennial ed. Toronto, Clarke, Irwin, 1967. 177 p. (Reprinted with an additional chapter 1967)
- KAVANAGH, Martin. *La Vérendrye, his life and times; a biography and a social study of a folklore figure: soldier, fur trader, explorer*. Brandon, 1967. 262 p.
- KIRKCONNELL, Watson. *A slice of Canada; memoirs*. Toronto, Published for Acadia University by University of Toronto Press, 1967. 393 p.
- LAPIERRE, J. E. *Calixa Lavallée, musicien national du Canada*. Montréal, Fides; Publications de la Société historique de Montréal, 1966. 291 p.
- LA ROQUE DE ROQUEBRUNE, Robert. *Quartier Saint-Louis; récit par Robert de Roquebrune pseud.* Montréal, Fides, 1966. 199 p. (Collection du nénuphar, 30) (Suite de Testament de mon enfance)
- LOWER, A. R. M. *My first seventy-five years*. Toronto, Macmillan, 1967. 384 p.
- LUCHKOVICH, Michael. *A Ukrainian Canadian in Parliament; memoirs of Michael Luchkovich*. Toronto, Ukrainian Canadian Research Foundation, 1965. 128 p. (Ukrainian Canadian Research Foundation. The Canadian centennial series, 2)
- MACGREGOR, J. G. *Peter Fidler: Canada's forgotten surveyor, 1769-1822*. Toronto, McClelland and Stewart, 1966. 265 p.
- MÉNARD, Jean. *Xavier Marmier et le Canada, avec des documents inédits; relations franco-canadiennes au XIX^e siècle*. Québec, Presses de l'Université Laval, 1967. 210 p. (Vie des lettres canadiennes, 4)
- MITCHELL, Estelle. *Messire Pierre Boucher (écuyer), seigneur de Boucherville, 1622-1717*. Montréal, Beauchemin, 1967. 389 p.
- NULIGAK, I. *Nuligak*. Translated from the Eskimo by Maurice METAVER. Illus. by EKOOTAK. Toronto, P. Martin Associates, 1966. 208 p.
- OSLER, E. B. *La Salle*. Don Mills, Longmans, 1967. 266 p.

- Our living tradition.* First to fifth series. Toronto, University of Toronto Press, 1957-65. 5 v. in 4. (Public lectures given at Carleton University on prominent Canadians)
- PEAKE, F. A. *The bishop who ate his boots; a biography of Isaac O. Stringer.* Toronto, Anglican Church of Canada, 1966. 190 p.
- PEPPER, Kathleen D. *James Wilson Morrice.* Toronto, Clarke, Irwin, 1966. 101 p.
- POWER, C. G. *A party politician; the memoirs of Chubby Power.* Ed. by Norman WARD. Toronto, Macmillan, 1966. 419 p.
- RILEY, Very Rev. C. E. *Derwyn Trevor Owen, Primate of All Canada.* Toronto, Ryerson Press, 1966. 175 p.
- SCHULL, J. J. *Laurier; the first Canadian.* Toronto, Macmillan, 1965. 658 p.
- SHERMAN, Patrick. *Bennett by Paddy Sherman.* Toronto, McClelland and Stewart, 1966. 316 p.
- SHRIVE, F. N. *Charles Mair; literary nationalist.* Toronto, University of Toronto Press, 1965. 309 p.
- SIMCOE, Elizabeth P. *Diary.* Ed. by Mary Quayle INNIS. With illus. from the original ms. Toronto, Macmillan, 1965. 223 p.
- SISSONS, C. B. *Nil alienum; the memoirs of C. B. Sissons.* Toronto, University of Toronto Press, 1964. 260 p.
- SKELTON, O. D. *Life and times of Sir Alexander Tilloch Galt.* Ed. and with an introd. by Guy MACLEAN. Toronto, McClelland and Stewart, 1966. 293 p. (The Carleton library, no. 26)
- SKELTON, O. D. *Life and letters of Sir Wilfrid Laurier.* Ed. by D. M. L. FARR. (Abridged ed.) Toronto, McClelland and Stewart, 1965. 2 v. (The Carleton library, no. 21-22)
- SLUMAN, Norma. *Poundmaker.* Toronto, Ryerson Press, 1967. 301 p.
- STEFANSSON, Vilhjalmur. *Discovery; the autobiography of Vilhjalmur Stefansson.* New York, McGraw-Hill, 1964. 411 p.
- STUBBS, R. St. G. *Four recorders of Rupert's Land; a brief survey of the Hudson's Bay Company courts of Rupert's Land.* Winnipeg, Peguis Publishers, 1967. 192 p.
- THOMSON, D. C. *Louis St. Laurent: Canadian.* Toronto, Macmillan, 1967. 564 p.
- WALLACE, W. S., ed. *The Macmillan dictionary of Canadian biography.* 3d ed. Toronto, Macmillan, 1963. 822 p.
- Who's who in Canadian Jewry, 1965.* Compiled by the Canadian Jewish Literary Foundation. Montreal, Jewish Institute of Higher Research, Central Rabbinical Seminary of Canada, 1965. 525 p.
- WILGESS, D. L. *Memoirs.* Toronto, Ryerson Press, 1967. 190 p.
- WORTHINGTON, Larry. "Worthy"; a biography of Major-General F. F. Worthington, C.B., M.C., M.M. Toronto, Macmillan, 1961. 236 p.

Country and People

- ABRAHAMSON, Una. *God bless our home; domestic life in nineteenth century Canada.* Toronto, Burns and MacEachern, 1966. 233 p.
- ARSENAULT, Bona. *Histoire et généalogie des Acadiens.* Québec, Conseil de la vie française en Amérique, 1965. 2 v.
- ARSENAULT, Bona. *History of the Acadians.* Québec, Conseil de la vie française en Amérique, 1966. 265 p. (Translation and revision of the historical part of *Histoire et généalogie des Acadiens*)
- Association canadienne des éducateurs de langue française. *Esquisses du Canada français.* Montréal, Fides, 1967. 450 p.
- Association canadienne des éducateurs de langue française. *Facets of French Canada.* Montréal, Fides, 1967. 450 p.
- AUDET, L.-P., et GAUTHIER, Armand. *Le système scolaire du Québec; organisation et fonctionnement.* Montréal, Beauchemin, 1967. 235 p.
- BELKIN, Simon. *Through narrow gates; a review of Jewish immigration, colonization and immigrant aid work in Canada (1840-1940).* Montreal, Canadian Jewish Congress and the Jewish Colonization Association, 1966. 235 p.
- BENT, W. R. R. *To everything there is a season; Roloff Beny in Canada.* Essays, poems and journals ed. by Milton WILSON. Don Mills, Longmans, 1967. 324 p. 181 illus.
- BOULIZON, Guy, et ADAMS, Geoffrey. *Canada, 20ème siècle—20th century.* Texte français de Guy BOULIZON. English text by Geoffrey ADAMS. Paris, Éditions de la Pensée moderne; Montréal, Beauchemin, 1964. 1 v.
- Canada. Dept. of the Secretary of State. *The arms, flags and floral emblems of Canada.* Ottawa, Queen's Printer, 1967. 80 p.

- Canada. Ministère du secrétariat d'état. *Les armoiries, drapeaux et emblèmes floraux du Canada*. Ottawa, Imprimeur de la Reine, 1967. 80 p.
- Canada. National Film Board. *Canada, a year of the land*. Executive producer, Lorraine MONK. Text, Bruce HUTCHISON. Design, Allan FLEMING. Ottawa, Queen's Printer, 1967. 260 illus.
- Canada. Office national du film. *Canada, du temps qui passe*. Producteur exécutif, Lorraine MONK. Texte, Jean SARRAZIN. Maquette, Allan FLEMING. Ottawa, Imprimeur de la Reine, 1967. 260 ill.
- CHALMERS, J. W. *Schools of the Foothills Province; the story of public education in Alberta*. Toronto, Published for the Alberta Teachers' Association by University of Toronto Press, 1967. 489 p.
- CLARK, S. D. *The suburban society*. Toronto, University of Toronto Press, 1966. 233 p.
- CLOUTIER, Eugène. *Le Canada sans passeport; regard libre sur un pays en quête de sa réalité*. Montréal, Éditions HMH, 1967. 2 v.
- Commission on the Financing of Higher Education. *Financing higher education in Canada; being the report of a Commission to the Association of Universities and Colleges of Canada*. Toronto, University of Toronto Press, 1965. 98 p.
- Commission sur le financement de l'enseignement supérieur au Canada. *Le financement de l'enseignement supérieur au Canada; rapport d'une commission d'enquête à l'Association des universités et collèges du Canada*. Québec, Presses de l'Université Laval, 1965. 112 p.
- CREIGHTON, Luella. *The elegant Canadians*. Toronto, McClelland and Stewart, 1967. 176 p.
- DESBARATS, P. H. *The state of Quebec; a journalist's view of the quiet revolution*. Toronto, McClelland and Stewart, 1965. 188 p.
- DE VOLPI, C. P. *The Niagara Peninsula; a pictorial record*. Montreal, Dev-Scio Publications, 1966. 259 p. (Distributed by Longmans, Canada)
- DROLET, Antonio. *Les bibliothèques canadiennes, 1604-1960*. Montréal, Cercle du livre de France, 1965. 234 p.
- EGGLESTON, Wilfrid. *Canada's nuclear story*. Toronto, Clarke, Irwin, 1965. 368 p.
- Geological Survey of Canada. *Banff National Park: how nature carved its splendour*, by D. M. BAIRD. Ottawa, Queen's Printer, 1967. 307 p.
- GILLET, Margaret. *A history of education: thought and practice*. Toronto, McGraw-Hill, 1966. 443 p.
- GODFREY, W. E. *The birds of Canada*. Colour illus. by J. A. CROSBY, line drawings by S. D. MACDONALD. Ottawa, Queen's Printer, 1966. 423 p. (National Museum of Canada. Bull. no. 203)
- GRIFFITHS, Garth. *Boating in Canada; practical piloting and seamanship*. Toronto, University of Toronto Press, 1966. 323 p.
- HARRIS, R. S., ed. *Changing patterns of higher education*. Toronto, University of Toronto Press, 1966. 106 p.
- HARRIS, R. S. *Quiet evolution; a study of the educational system of Ontario*. Toronto, University of Toronto Press, 1967. 163 p.
- HARVEY, J. C. *Visages du Québec*. Photos de Marcel COGNAC. Montréal, Cercle du livre de France, 1965. 202 p.
- HARVEY, J. C. *The many faces of Quebec*. Translated by Alta Lind Cook. Photos by Marcel COGNAC. Toronto, Macmillan, 1966. 202 p.
- IGLAUER, Edith. *The new people; the Eskimo's journey into our time*. Garden City, N.Y., Doubleday, 1966. 205 p. (About Canadian Eskimos)
- KEMP, V. A. M. *Scarlet and Stetson; the Royal North-West Mounted Police on the prairies*. Toronto, Ryerson Press, 1964. 280 p.
- KESTERTON, W. H. *A history of journalism in Canada*. Foreword by Wilfrid EGGLESTON. Toronto, McClelland and Stewart, 1967. 304 p. (The Carleton library, no. 36)
- KRISTJANSON, Wilhelm. *The Icelandic people in Manitoba*. Winnipeg, Wallingford Press, 1965. 557 p.
- LAFORTUNE, François. *Où la lumière chante*. Photos, F. LAFORTUNE. Textes, Gilles VIGNEAULT. Québec, Presses de l'Université Laval, 1966. 1 v. en majeure part. ill. (La ville de Québec)
- LANDSDOWNE, J. F., and LIVINGSTON, J. A. *Birds of the northern forest*. Toronto, McClelland and Stewart, 1966. 247 p.
- LAPIERRE, Laurier, ed. *French-Canadian thinkers of the nineteenth and twentieth centuries*. Montreal, McGill University Press, 1966. 117 p. (Four o'clock lectures, 1)
- LAPIERRE, Laurier. *Québec: hier et aujourd'hui*. Toronto, Macmillan, 1967. 306 p.
- LASKIN, R. J., ed. *Social problems; a Canadian profile*. Toronto, McGraw-Hill, 1964. 472 p.
- LEIM, A. H., and SCOTT, W. B. *Fishes of the Atlantic coast of Canada*. Ottawa, Queen's Printer, 1966. 485 p. (Fisheries Research Board of Canada, Bull. no. 155)
- MCALLISTER, R. I., ed. *Newfoundland and Labrador, the first fifteen years of Confederation*. St. John's, Dicks, 1966. 247 p.

- MACDERMOT, H. E. *One hundred years of medicine in Canada, 1867-1967*. Toronto, McClelland and Stewart, 1967. 224 p.
- MACEWAN, J. W. G. *Entrusted to my care*. Saskatoon, Modern Press, 1966. 269 p. (On conservation)
- MCCRATH, W. T., ed. *Crime and its treatment in Canada*. Toronto, Macmillan, 1965. 510 p.
- MCLEAN, E. D. *The living past of Montreal*. Le passé vivant de Montréal. Version française de Paul ROUSSEL. Montreal, McGill University Press, 1964. 1 v. (unpaged) (text bilingual)
- MACLENNAN, Hugh. *The colour of Canada*. Toronto, McClelland and Stewart, 1967. 126 p.
- MASTERS, D. C. C. *Protestant church colleges in Canada; a history*. Toronto, University of Toronto Press, 1966. 225 p. (Studies in the history of higher education in Canada, 4)
- MELANÇON, Claude. *Légendes indiennes du Canada*. Montréal, Éditions du jour, 1967. 160 p.
- MELLING, John. *Right to a future: the native peoples of Canada*. Toronto, Anglican Church of Canada and United Church of Canada, 1967. 150 p.
- MIERTSCHING, J. A. *Frozen ships; the Arctic diary of Johann Miertsching, 1850-1854*. Trans. and with introd. and notes by L. H. NEATBY. Toronto, Macmillan, 1967. 254 p.
- MOIR, J. S., ed. *The Cross in Canada*. Toronto, Ryerson Press, 1966. 247 p.
- MONTREAL. *L'âge d'or/The golden years*. English text by Leonard L. KNOTT. Texte français de Huguette LAVIGUEUR. Photos by Armour LANDRY. Toronto, McClelland and Stewart, 1965. 192 p.
- National Conference on Canadian Slavs. *Slavs in Canada; proceedings*. 1st; 1965. Edmonton, Inter-University Committee on Canadian Slavs, 1966. 171 p. biennial (Includes one paper in French)
- NEATBY, L. H. *Conquest of the last frontier*. Don Mills, Ont., Longmans, 1966. 425 p. (History of Arctic exploration in the nineteenth century)
- NICHOLSON, G. W. L. *The White Cross in Canada; a history of St. John Ambulance*. Montreal, Harvest House, 1967. 206 p.
- NOTMAN, William. *Portrait of a period: a collection of Notman photographs, 1856 to 1915*. Ed. by J. Russell HARPER and Stanley TRIGGS. Montreal, McGill University Press, 1967. 1 v. chiefly illus.
- PARKIN, J. H. *Bell and Baldwin; their development of aerodromes at Baddeck, Nova Scotia*. Toronto, University of Toronto Press, 1964. 555 p.
- PERCIVAL, W. P. *The lure of Quebec*. Rev. ed. Toronto, Ryerson Press, 1965. 217 p.
- PETERSON, R. L. *The mammals of eastern Canada*. Toronto, Oxford University Press, 1966. 465 p.
- PORTER, J. A. *The vertical mosaic; an analysis of social class and power in Canada*. Toronto, University of Toronto Press, 1965. 626 p. (Studies in the structure of power; decision-making in Canada, 2)
- POTVIN, Berthe. *La vie des Canadiens-français au début du siècle*. Montréal, Agence de distribution populaire, 1966. 126 p.
- Québec (Ville) Université Laval. Faculté des sciences de l'éducation. *L'éducation dans un Québec en évolution*. Québec, Presses de l'Université Laval, 1966. 245 p. (Les Dossiers pédagogiques de Laval 1)
- Recherches sociographiques. Colloque. 3^e, Québec, 1966. *Le pouvoir dans la société canadienne-française*. Ouvrage réalisé sous la direction de Fernand DUMONT et Jean-Paul MONTMINY. Québec, Presses de l'Université Laval, 1966. 252 p.
- RICHMOND, A. H. *Post-war immigrants in Canada*. Toronto, University of Toronto Press, 1967. 320 p. (Canadian studies in sociology, 2)
- ROYAL SOCIETY OF CANADA. *Pioneers of Canadian science; symposium presented in 1964*. Les pionniers de la science canadienne; colloque présenté en 1964. Ed. by G. F. G. STANLEY. Toronto, University of Toronto Press, 1966. 146 p. (Its "Studia varia" series, 9)
- RUSSELL, Franklin. *The secret islands*. Toronto, McClelland and Stewart, 1965. 238 p. (Description of islands off the eastern coast of Canada and Newfoundland)
- SACK, B. G. *History of the Jews in Canada*. Rev. ed. Translated by Ralph NOVEK. Montreal, Harvest House, 1965. 299 p.
- SLOBODIN, Richard. *Metis of the Mackenzie District*. Ottawa, Canadian Research Centre for Anthropology, Saint-Paul University, 1966. 175 p.
- STEACIE, E. W. R. *Science in Canada; selections from the speeches of E. W. R. Steacie*. Ed. by J. D. BABBITT. Toronto, University of Toronto Press, 1965. 198 p.
- SYLVESTRE, Guy, éd. *Structures sociales du Canada français; études de membres de la Section I de la Société royale du Canada*. Québec, Presses de l'Université Laval; Toronto, University of Toronto Press, 1966. 120 p.
- THISTLE, M. W. *The inner ring; the early history of the National Research Council of Canada*. Toronto, University of Toronto Press, 1966. 435 p.

- THOMSON, D. W. *Men and meridians; the history of surveying and mapping in Canada*. Ottawa, Queen's Printer, 1966-67. 2 v. (Issued by the Dept. of Energy, Mines and Resources)
- THORNTON, Mildred V. *Indian lives and legends*. Vancouver, Mitchell Press, 1966. 301 p.
- TORONTO. Royal Ontario Museum. *Modesty to mod; dress and underdress in Canada, 1780-1967; catalogue of 100 items in the exhibition, May 17 to September 4, 1967*. Toronto, 1967. 71 p.
- TOUGAS, Gérard. *La francophonie en péril*. Montréal, Cercle du livre de France, 1967. 181 p.
- TUREK, Victor. *Poles in Manitoba*. Foreword by William J. ROSE. Toronto, Polish Research Institute in Canada, 1967. 339 p. (Polish Research Institute in Canada. Studies, 5)
- VAN DER AA, Hans. *Montréal*. Texte français par Robert CHOQUETTE. English text by Leslie ROBERTS. Montréal, Éditions Leméac, 1965. 1 v. (non paginé)
- WILLIS, N. P. *Canadian scenery by N. P. Willis*. Illustrated from drawings by W. H. BARTLETT. Facsim. ed. Toronto, P. Martin, 1967. 2 v.
- WILSON, D. J. *The Church grows in Canada*. Toronto, Ryerson Press, 1966. 224 p.
- YUZYK, Paul. *Ukrainian Canadians; their place and role in Canadian life*. Toronto, Ukrainian Canadian Business and Professional Federation, 1967. 104 p.
- YUZYK, Paul. *Les Canadiens-Ukrainiens; leur place et leur rôle dans la vie canadienne*. Traduit de l'anglais par Bernard NICOLAU. Winnipeg, Association ukrainienne des lecteurs (Prosvital), 1967. 99 p.

Economics

- BLAIR, C. L. *Canada's natural wealth*. Toronto, McGraw-Hill, 1964. 160 p.
- BOLDT, J. R. *The winning of nickel; its geology, mining, and extractive metallurgy*. Toronto, Longmans, 1967. 487 p.
- BONIN, Bernard. *L'investissement étranger à long terme au Canada: ses caractères et ses effets sur l'économie canadienne*. Avec annexe sur les systèmes internationaux de points de base. Montréal, Presses de l'École des hautes études commerciales, 1966. 462 p. (Problèmes économiques contemporains, 3)
- BROUILLETTE, Benoît. *Les industries manufacturières du Canada*. Rééd. mise à jour et augm. Montréal, École des hautes études commerciales, 1965. 181 p. (Montréal. École des hautes études commerciales. Institut d'économie appliquée. Étude n° 10)
- BROWN, J. J. *Ideas in exile; a history of Canadian invention*. Toronto, McClelland and Stewart, 1967. 372 p.
- CAIRNS, J. P., and BINHAMMER, H., eds. *Canadian banking & monetary policy, recent readings*. Toronto, McGraw-Hill, 1965. 377 p.
- CANADA. *Commission royale d'enquête sur la fiscalité*. Rapport. Ottawa, Imprimeur de la Reine, 1967. 6 v.
- CANADA. *Royal Commission on Taxation*. Report. Ottawa, Queen's Printer, 1966. 7 v.
- CARROTHERS, A. W. R. *Collective bargaining law in Canada*. Toronto, Butterworths, 1965. 553 p.
- Congrès des relations industrielles de l'Université Laval. 20^e, Québec, 1965. *Le code du travail du Québec (1965)*. Québec, Presses de l'Université Laval, 1965. 271 p.
- CRISPO, J. H. G. *International unionism; a study in Canadian-American relations*. Toronto, McGraw-Hill, 1967. 327 p.
- CURRIE, A. W. *Canadian transportation economics*. Toronto, University of Toronto Press, 1967. 719 p.
- DENISON, Merrill. *Canada's first bank; a history of the Bank of Montreal*. Toronto, McClelland and Stewart, 1966-67. 2 v.
- DENISON, Merrill. *La première banque au Canada; histoire de la banque de Montréal*. Traduit par Paul A. HORGUELIN. Toronto, McClelland and Stewart, 1966-67. 2 v.
- DHALLA, N. K. *These Canadians; a sourcebook of marketing and socio-economic facts*. Toronto, McGraw-Hill, 1966. 749 p.
- DRUMMOND, I. M. *The Canadian economy; organization and development*. Homewood, Ill., R. D. Irwin, 1966. 146 p.
- DUE, J. F. *The intercity electric railway industry in Canada*. Toronto, University of Toronto Press, 1966. 118 p. (Canadian studies in economics, 18)
- EASTERBROOK, W. T., and WATKINS, M. H., eds. *Approaches to Canadian economic history; a selection of essays*. Toronto, McClelland and Stewart, 1967. 292 p. (The Carleton library, no. 31)
- EASTMAN, H. C., and STYKOLT, S. *The tariff and competition in Canada*. Toronto, Macmillan, 1967. 400 p.
- FIRESTONE, O. J. *Broadcast advertising in Canada; past and future growth*. Ottawa, University of Ottawa Press, 1966. 358 p. (Social science studies, no. 3) (Includes some text in French)
- FIRESTONE, O. J. *The economic implications of advertising*. Toronto, Methuen, 1967. 210 p.

- GALARNEAU, Claude, et LAVOIE, Elzéar, éd. *France et Canada français du XVI^e au XX^e siècle*. Québec, Presses de l'Université Laval, 1966. 322 p. (Cahiers de l'Institut d'histoire, 7)
- HALL, L. G., and SPURR, G. H. *The elements of insured pension plans in Canada*. 2d ed. Don Mills, Institute of Chartered Life Underwriters of Canada, 1965. 112, 103 p.
- HALL, L. G., et SPURR, G. H. *Les éléments des régimes de pension assurés au Canada*. 2^e éd. Don Mills, Institut des assureurs-vie agréés du Canada, 1965. 121, 63 p.
- LEIGHTON, D. S. R., and THAIN, D. H. *Canadian problems in marketing*. 2d ed. Toronto, McGraw-Hill, 1965. 811 p.
- LEONARD, W. G. *Financial management in Canadian business*. Toronto, McGraw-Hill, 1965. 235 p.
- LEVITT, Kari, and MCINTYRE, Alistair. *Canada-West Indies economic relations*. Montreal, Sponsored by the Canadian Trade Committee, Private Planning Association of Canada and by the Centre for Developing-Area Studies, McGill University, 1967. 181 p.
- MARION, Gérald. *Répartition fonctionnelle des revenus; analyse de la part du travail au Canada*. Montréal, Presses de l'Université de Montréal, 1965. 125 p.
- NEUFELD, E. P., ed. *Money and banking in Canada; historical documents and commentary*. Toronto, McClelland and Stewart, 1964. 369 p. (The Carleton library, no. 17)
- OUELLET, Fernand. *Histoire économique et sociale du Québec 1760-1850; structures et conjoncture*. Montréal, Fides, 1966. 639 p. (Histoire économique et sociale du Canada français)
- PETICHINIS, S. G. *The economics of labour; 1925—employment and wages in Canada*. Toronto, McGraw-Hill, 1965. 412 p.
- PLOTNICK, A. R. *Petroleum; Canadian markets and United States foreign trade policy*. Seattle, University of Washington Press, 1964. 172 p.
- POTTER, C. C. *Finance and business administration in Canada*. Scarborough, Ont., Prentice-Hall, 1966. 578 p.
- Private Planning Association of Canada. Canadian Trade Committee. *Canadian economic policy since the war; a series of six public lectures in commemoration of the twentieth anniversary of the white paper on employment and income of 1945*. Montreal, 1966. 154 p.
- PUGSLEY, W. H. *Canadian business organization and management*. Toronto, McGraw-Hill, 1965. 547 p.
- RAYNAULD, André. *The Canadian economic system*. Translated from the French by C. M. Ross. Toronto, Macmillan, 1967. 440 p.
- ROSENBLUTH, Gideon. *The Canadian economy and disarmament*. Toronto, Macmillan, 1967. 189 p.
- ROYAL SOCIETY OF CANADA. *Water resources of Canada; symposia presented to the Royal Society of Canada in 1966. Ressources hydrauliques du Canada; colloques présentés à la Société royale du Canada en 1966*. Ed. by Claude F. DOLMAN. Toronto, Published for the Society by University of Toronto Press, 1967. 251 p. (Studia varia series, 11)
- RYAN, William F., s.j. *The clergy and economic growth in Quebec (1896-1914)*. Québec, Presses de l'Université Laval, 1966. 348 p.
- SAFARIAN, A. E. *Foreign ownership of Canadian industry*. Toronto, McGraw-Hill, 1966. 346 p.
- SCHLESINGER, Benjamin, ed. *Poverty in Canada and the United States; overview and annotated bibliography*. Editorial consultant: Florence STRAKHOVSKY. Toronto, University of Toronto Press, 1966. 211 p.
- TORONTO UNIVERSITY. Centre for Industrial Relations. *Industrial relations: challenges and responses*. Ed. by J. H. G. CRISPO. Toronto, University of Toronto Press, 1966. 156 p.
- UREN, P. E., ed. *East-West trade; a symposium*. Introd. by Mitchell W. SHARP. Toronto, Canadian Institute of International Affairs, 1966. 181 p. (Contemporary affairs, no. 36)
- WILSON, G. W., GORDON, Scott, and JUDEK, Stanislaw. *Canada: an appraisal of its needs and resources*. Avec un commentaire par A. BRETON. New York, Twentieth Century Fund; Toronto, University of Toronto Press, 1965. 453 p.
- WONNACOTT, G. P. *The Canadian dollar, 1948-1958*. Rev. ed. Toronto, University of Toronto Press, 1965. 339 p.
- WONNACOTT, R. J., and WONNACOTT, Paul. *Free trade between the United States and Canada; the potential economic effects*. Cambridge, Mass., Harvard University Press, 1967. 439 p. (Harvard economic studies, v. 129)
- WOOD, W. D., and THOMAN, R. S., eds. *Areas of economic stress in Canada*. Proceedings of a Conference held at Queen's University, Kingston, Ont. Kingston, Industrial Relations Centre, Queen's University, 1965. 221 p.

External Relations

- Banff Conference on World Development. 3d, Banff, Alta., 1965. *Canada's role as a middle power*. Ed. by J. K. GORDON. Toronto, Canadian Institute of International Affairs, 1966. 212 p. (Contemporary affairs, no. 35)

- BROWN, R. C. *Canada's national policy, 1883-1900; a study in Canadian-American relations*. Princeton, Princeton University Press, 1964. 436 p.
- CANADA. Department of External Affairs. *Canada and the United Nations*. Ottawa, Queen's Printer. Annual.
- CANADA. Ministère des Affaires extérieures. *Le Canada et les Nations Unies*. Ottawa, Imprimeur de la Reine. Annuel.
- Canada in world affairs*. Toronto, Oxford University Press, 1941—
 v. 1 and 2 out of print.
 v. 3. *September 1941-May 1944*, by C. C. LINGARD and R. G. TROTTER. 1950. 332 p.
 v. 4. *From Normandy to Paris, 1944-46*, by F. H. SOWARD. 1950. 372 p.
 v. 5. *From UN to NATO, 1946-1949*, by R. A. SPENCER. 1957. 447 p. (An Oxford in Canada paperback, OCP 14)
 v. 6. *1949 to 1950*, by W. E. C. HARRISON. 1967. 374 p. (An Oxford in Canada paperback, OCP 15)
 v. 7. *September 1951 to October 1953*, by B. S. KEIRSTEAD, with the assistance of Muriel ARMSTRONG. 1966. 268 p. (An Oxford in Canada paperback, OCP 9)
 v. 8. *1953 to 1955*, by D. C. MASTERS. 1965. 223 p. (An Oxford in Canada paperback, OCP 4)
 v. 9. *October 1955 to June 1957*, by James EAYRS. 1965. 291 p. (An Oxford in Canada paperback, OCP 5)
 v. 10. not yet published.
 v. 11. *1959-1961*, by R. A. PRESTON. 1965. 300 p.
- CONGRÈS DES AFFAIRES CANADIENNES. 4^e, Québec, 1964. *La dualité canadienne à l'heure des États-Unis*. Québec, Presses de l'Université Laval, 1965. 132 p. (CAC 4)
- GLAZEBROOK, G. P. de T. *A history of Canadian external relations*. Rev. ed. Toronto, McClelland and Stewart, 1966. 2 v. (The Carleton library, no. 27-28)
- GLUEK, A. C. *Minnesota and the manifest destiny of the Canadian Northwest; a study in Canadian-American relations*. Toronto, University of Toronto Press, 1965. 311 p.
- LE GRIS, Claude. *L'entrée du Canada sur la scène internationale (1919-1927)*. Préf. de John W. HOLMES. Paris, Presses universitaires de France, 1966. 93 p.
- MACDONALD, R. S., ed. *The Arctic frontier*. Toronto, University of Toronto Press, 1966. 311 p.
- MARTIN, Paul. *Paul Martin speaks for Canada; a selection of speeches on foreign policy, 1964-67*. Toronto, McClelland and Stewart, 1967. 158 p.
- MERCHANT, L. T., ed. *Neighbours taken for granted; Canada and the United States*. New York, F. A. Praeger; Toronto, Burns and MacEachern, 1966. 166 p.
- MINIFIE, J. M. *Open at the top; reflections on U.S.-Canada relations*. Toronto, McClelland and Stewart, 1964. 104 p.
- PENLINGTON, Norman. *Canada and imperialism, 1896-1899*. Toronto, University of Toronto Press, 1965. 238 p.
- SCHWARTZ, Mildred A. *Public opinion and Canadian identity*. Scarborough, Fitzhenry and Whiteside, 1967. 263 p.
- SPICER, J. K. *A Samaritan state? External aid in Canada's foreign policy*. Toronto, University of Toronto Press, 1966. 272 p.
- TUPPER, S. R., and BAILEY, D. L. *One continent—two voices; the future of Canada/U.S. relations*. Toronto, Clarke, Irwin, 1967. 189 p.
- U.S. Information Service. Ottawa. *A list of selected publications and sources of information on Canadian-American relations*. Ottawa, 1966. 75 p.
- The West Indies and the Atlantic Provinces of Canada; papers*. Halifax, Institute of Public Affairs, Dalhousie University, 1966. 70 p.
- WISE, S. F., and BROWN, R. C. *Canada views the United States; nineteenth-century political attitudes*. Toronto, Macmillan, 1967. 139 p.

Government and Politics

- ALLEMAGNE, André d'. *Le colonialisme au Québec*. Montréal, Éditions R-B, 1966. 191 p.
- ASHLEY, C. A., and SMALES, R. G. H. *Canadian crown corporations; some aspects of their administration and control*. Toronto, Macmillan, 1965. 360 p.
- AYRE, W. B. *Mr. Pearson and Canada's revolution by diplomacy*. Montreal, 1966. 285 p.
- BÉDARD, Charles. *Le régime juridique des Grands Lacs de l'Amérique du Nord et du Saint-Laurent*. Québec, Presses de l'Université Laval, 1966. 178 p.
- BOYER, Raymond. *Les crimes et les châtements au Canada français du XVII^e au XX^e siècle*. Montréal, Cercle du livre de France, 1966. 542 p. (L'Encyclopédie du Canada français, 5)
- BREWIN, F. A. *Stand on guard; the search for a Canadian defence policy*. Toronto, McClelland and Stewart, 1965. 140 p.

- BROSSARD, Jacques. *L'immigration; les droits et pouvoirs du Canada et du Québec*. Montréal, Presses de l'Université de Montréal, 1967. 208 p.
- BROSSARD, Jacques. *Les pouvoirs extérieurs du Québec, par Jacques Brossard, André Patry et Elisabeth Weiser*. Montréal, Presses de l'Université de Montréal, 1967. 463 p.
- BROWNE, G. P. *The Judicial Committee and the British North America act; an analysis of the interpretative scheme for the distribution of legislative powers*. Toronto, University of Toronto Press, 1967. 246 p.
- CANADA. *Commission royale d'enquête sur le bilinguisme et le biculturalisme*. Rapport. T. 1. Introduction générale. Livre 1. *Les langues officielles*. Ottawa, Imprimeur de la Reine, 1967. 229 p.
- CANADA. *Royal Commission on Bilingualism and Biculturalism*. Report. v.1. General introduction. Book 1. *The official languages*. Ottawa, Queen's Printer, 1967. 212 p.
- CLEMENTS, M. R. *By their bootstraps; a history of the credit union movement in Saskatchewan*. Toronto, Clarke, Irwin, 1965. 270 p.
- COHEN, R. I. *Quebec votes; the how and why of Quebec voting in every federal election since Confederation*. Montreal, Saje Publications, 1965. 128 p.
- COHEN, R. I. *Le vote au Québec; les "pourquoi" et "comment" du vote fédéral au Québec depuis la Confédération*. Montréal, Saje Publications, 1965. 128 p.
- COOK, G. R. *Canada and the French-Canadian question*. Toronto, Macmillan, 1966. 219 p.
- COOK, G. R. *Le sphinx parle français; un Canadien anglais s'interroge sur le problème québécois*. Traduit par François RINFRET. Montréal, Éditions HMH, 1966. 187 p.
- CORBETT, D. C. *Politics and the airlines*. Toronto, University of Toronto Press, 1965. 350 p.
- COTNAM, Jacques. *Faut-il inventer un nouveau Canada?* Montréal, Fides, 1967. 256 p.
- COURTNEY, J. C., ed. *Voting in Canada; a selection of papers*. Scarborough, Prentice-Hall, 1967. 210 p.
- CRAIG, W. G. *The law and procedure of meetings in Canada*. Toronto, Ryerson Press, 1966. 90 p.
- CRÉPEAU, P. A., and MACPHERSON, C. B., eds. *The future of Canadian federalism. L'avenir du fédéralisme canadien*. Toronto, University of Toronto Press; Montréal, Presses de l'Université de Montréal, 1965. 188 p.
- DAWSON, R. M. *The government of Canada*. 4th ed. Rev. by Norman WARD. Toronto, University of Toronto Press, 1963. 610 p.
- ENGELMANN, F. C., and SCHWARTZ, Mildred A. *Political parties and the Canadian social structure*. Scarborough, Prentice-Hall, 1967. 277 p.
- FARIBAULT, Marcel, and FOWLER, R. M. *Ten to one; the Confederation wager*. Toronto, McClelland and Stewart, 1965. 150 p.
- FARIBAULT, Marcel, et FOWLER, R. M. *Dix pour un; ou, Le pari confédératif*. Montréal, Presses de l'Université de Montréal, 1965. 163 p.
- FARIBAULT, Marcel. *Unfinished business: some thoughts on the mounting crisis in Quebec*. Toronto, McClelland and Stewart, 1967. 186 p.
- FARIBAULT, Marcel. *Vers une nouvelle constitution*. Montréal, Fides, 1967. 249 p. (Bibliothèque économique et sociale)
- GLAZEBROOK, G. P. de T. *A history of Canadian political thought*. Toronto, McClelland and Stewart, 1966. 360 p.
- GORDON, D. C. *The Dominion partnership in Imperial defense, 1870-1914*. Baltimore, Johns Hopkins Press, 1965. 315 p.
- GRAHAM, W. R., ed. *The King-Byng affair, 1926: a question of responsible government*. Toronto, Copp Clark, 1967. 140 p. (Issues in Canadian history)
- GRANATSTEIN, J. L. *The politics of survival: the Conservative party of Canada, 1939-1945*. Toronto, University of Toronto Press, 1967. 231 p.
- GRANT, G. P. *Lament for a nation; the defeat of Canadian nationalism*. Toronto, McClelland and Stewart, 1965. 97 p. (Canada today)
- GREASON, G. K., and KING, R. C. *Canadian democracy at work*. Rev. ed. Toronto, Macmillan, 1966. 116 p. (Canadian federal, provincial and municipal systems of government)
- GRENON, Hector. *Notre peuple découvre le sport de la politique; chroniques vécues*. Montréal, éditions de l'homme, 1967. 363 p. (fait suite à *Chroniques vécues*)
- GUNN, Gertrude E. *The political history of Newfoundland, 1832-1864*. Toronto, University of Toronto Press, 1966. 249 p. (Canadian studies in history and government, 7)
- GWYN, R. J. *The shape of scandal; a study of a government in crisis*. Toronto, Clarke, Irwin, 1965. 248 p.
- HAMELIN, Jean. *Aperçu de la politique canadienne au XIX^e siècle par Jean Hamelin, John Huot et Marcel Hamelin*. Québec, Culture, 1965. 154 p.
- HUTCHISON, Bruce. *Mr. Prime Minister, 1867-1964*. Toronto, Longmans, 1964. 394 p.

- JONES, Richard. *Community in crisis; French-Canadian nationalism in perspective*. Toronto, McClelland and Stewart, 1967. 192 p.
- KIERANS, E. W. *Le Canada vu par Kierans*. Montréal, Éditions du jour, 1967. 158 p. (Les Idées du jour, D-31)
- KIERANS, E. W. *Challenge of confidence; Kierans on Canada*. Toronto, McClelland and Stewart, 1967. 125 p.
- KUNZ, F. A. *The modern Senate of Canada, 1925-1963; a re-appraisal*. Toronto, University of Toronto Press, 1965. 395 p. (Canadian government series, 15)
- LAMBERT, R. S. *Renewing nature's wealth; a Centennial history of the public management of lands, forests & wildlife in Ontario, 1763-1967*, by Richard S. LAMBERT with Paul Pross. Foreword by John P. ROBERTS. Toronto, Dept. of Lands and Forests, 1967. 630 p.
- MACDONALD, Norman. *Canada, immigration and colonization, 1841-1903*. Toronto, Macmillan, 1966. 381 p.
- MACEWAN, J. W. G. *Poking into politics*. Edmonton, Institute of Applied Art, 1966. 192 p.
- McLIN, J. B. *Canada's changing defense policy, 1957-1963; the problems of a middle power in alliance*. Baltimore, Johns Hopkins University, 1967. 251 p.
- MACQUARRIE, H. N. *The Conservative Party*. Toronto, McClelland and Stewart, 1965. 166 p.
- McWHINNEY, Edward. *Comparative federalism; states' rights and national power*. 2d ed. Toronto, University of Toronto Press, 1965. 114 p.
- MANNING, E. C. *Political realignment; a challenge to thoughtful Canadians*. Toronto, McClelland and Stewart, 1967. 94 p.
- MORIN, Rosaire. *L'immigration au Canada*. Montréal, Éditions de l'Action nationale, 1966. 172 p.
- MORTON, W. L. *The Progressive Party in Canada*. Rev. ed. Toronto, University of Toronto Press, 1967. 331 p. (Social Credit in Alberta; its background and development, 1)
- O'HEARN, P. J. T. *Peace, order and good government; a new constitution for Canada*. Toronto, Macmillan, 1964. 325 p.
- PARÉ, Gérard, o.p. *Au-delà du séparatisme; le Canada que j'ai revu*. Montréal, Éditions du jour, 1966. 132 p. (Les Idées du jour, D-22)
- PRESTON, R. A. *Canada and "Imperial Defense"; a study of the origins of the British Commonwealth's defense organization, 1867-1919*. Toronto, Published under the auspices of Duke University Commonwealth-Studies Center by University of Toronto Press, 1967. 576 p. (Duke University Commonwealth-Studies Center. Publication no. 29)
- REGENSTREIF, Peter. *The Diefenbaker interlude; parties and voting in Canada; an interpretation*. Toronto, Longmans, 1965. 194 p.
- RUSSELL, P. H., ed. *Leading constitutional decisions; cases on the British North America Act*. Toronto, McClelland and Stewart, 1965. 234 p. (The Carleton library, no. 23)
- SCOTT, F. R., and OLIVER, Michael, eds. *Quebec states her case; speeches and articles from Quebec in the years of unrest*. Toronto, Macmillan, 1964. 165 p.
- SCOTTON, C. A. *Canadian labour and politics; a short history of the development of the Canadian labour movement and its relationship to and influence on the Canadian political scene*. Ottawa, Political Education Dept., Canadian Labour Congress, 1967. 40 p.
- SCOTTON, C. A. *Le syndicalisme canadien et la politique; précis du développement du mouvement syndical canadien et du rôle qu'il a joué sur la scène politique du Canada*. Ottawa, Service d'éducation politique, Congrès du Travail du Canada, 1967. 40 p.
- SLOAN, T. S. *Quebec: the not-so-quiet revolution*. Toronto, Ryerson Press, 1965. 121 p.
- SLOAN, T. S. *Une révolution tranquille? Traduit par Michel VAN SCHENDEL*. Montréal, Éditions HMH, 1965. 159 p. (Collection aujourd'hui)
- SMILEY, D. V. *The Canadian political nationality*. Toronto, Methuen, 1967. 142 p.
- TARNOPOLSKY, W. S. *The Canadian Bill of Rights*. Toronto, Carswell, 1966. 246 p.
- THOMPSON, R. N. *Commonsense for Canadians; a selection of speeches analysing today's opportunities and problems*. Toronto, McClelland and Stewart, 1965. 162 p. (On Social Credit policies for Canada)
- TRUDEAU, P. E. *Federalism and the French Canadians*. Toronto, Macmillan, 1968. 212 p.
- TRUDEAU, P. E. *Le fédéralisme et la société canadienne-française*. Montréal, Éditions HMH, 1967. 227 p. (Collection Constantes, v. 10)
- VARCOE, F. P. *The constitution of Canada*. 2d ed. Toronto, Carswell, 1965. 314 p.
- WERTHMAN, W. C., comp. *Canada in cartoon; a pictorial history of the Confederation years, 1867-1967*. Continuity script by W. Stewart MacNUTT. Fredericton, Brunswick Press, 1967. 216 p.

History

- Approaches to Canadian history; essays by W. A. Mackintosh and others.* Introd. by Carl BERGER. Toronto, University of Toronto Press, 1967. 98 p. (Canadian historical readings, 1)
- ARCHIVES PUBLIQUES DU CANADA. *Nouveaux documents sur Champlain et son époque.* Recueillis et publiés par Robert LE BLANT et René BAUDRY. T. 1. 1560-1622. Ottawa, Imprimeur de la Reine, 1967. 492 p.
- BARBEAU, Victor. *Regards sur Montréal.* Montréal, Académie canadienne-française, 1966. 163 p. (Académie canadienne-française. Cahiers, n° 10)
- BLANCHARD, J.-H. *The Acadians of Prince Edward Island, 1720-1964.* Charlottetown, 1964. 151 p.
- BLISS, J. W. M., ed. *Canadian history in documents, 1763-1966.* Toronto, Ryerson Press, 1966. 397 p. (Ryerson paperbacks, 11)
- BOLGER, F. W. P. *Prince Edward Island and Confederation, 1863-1873.* Charlottetown, St. Dunstan's University Press, 1964. 308 p.
- BOND, Courtney. *City on the Ottawa; a detailed historical guide to Ottawa, the capital of Canada.* Ottawa, Queen's Printer, 1965. 146 p.
- BOND, Courtney. *Ville sur l'Ottawa; guide historique détaillé de la ville d'Ottawa, capitale du Canada.* Ottawa, Imprimeur de la Reine, 1965. 151 p.
- BREMNER, Archibald. *City of London, Ontario, Canada; the pioneer period and the London of to-day.* 2d ed. London, Ont. Reprinted by the London Public Library Board, 1967. 177 p.
- BROWN, R. C., and PRANG, Margaret E., eds. *Confederation to 1949.* Scarborough, Prentice-Hall, 1966. 334 p. (Canadian historical document series, v. 3)
- CAMPBELL, Marjorie F. *A mountain and a city; the story of Hamilton.* Toronto, McClelland and Stewart, 1966. 351 p.
- CANADA. Army. *Strange battleground; the operations in Korea and their effects on the defence policy of Canada,* by H. F. WOOD. Maps by E. H. ELLWAND. Ottawa, Queen's Printer, 1966. 317 p.
- CANADA. Armée. *Singulier champ de bataille; les opérations en Corée et leurs effets sur la politique de défense du Canada,* par H. F. WOOD. Cartes par E. M. [sic] ELLWAND. Ottawa, Imprimeur de la Reine, 1966. 354 p.
- CANADA. Department of National Defence. Directorate of history. *The Armed Forces of Canada, 1867-1967; a century of achievement,* ed. by D. J. GOODSPEED. Ottawa, Queen's Printer, 1967. 289 p.
- CANADA. Ministère de la défense nationale. Direction des services historiques. *Les Forces armées du Canada; un siècle de grandes réalisations,* rédigé par D. J. GOODSPEED. Ottawa, Imprimeur de la Reine, 1967. 289 p.
- CANADA. Department of National Defence. Naval Historical Section. *Canadian naval operations in Korean waters, 1950-1955,* by Thor THORGRIMSSON and E. C. RUSSELL. Ottawa, Queen's Printer, 1965. 167 p.
- CANADA. Ministère de la défense nationale. Section historique de la marine. *Les opérations navales du Canada dans les eaux coréennes, 1950-1955,* par Thor THORGRIMSSON et E. C. RUSSELL. Ottawa, Imprimeur de la Reine, 1965. 178 p.
- CANADA. National Film Board. *Stones of history; Canada's Houses of Parliament.* Text by Stanley CAMERON. Ottawa, Queen's Printer, 1967. 1 v. (chiefly illus.)
- CANADA. Office national du film. *Témoign d'un siècle; le Palais du Parlement canadien.* Texte de Stanley CAMERON. Ottawa, Imprimeur de la Reine, 1967. 1 v. (en majeure partie ill.)
- CARELESS, J. M. S. and BROWN, R. C., eds. *The Canadians, 1867-1967.* Toronto, Macmillan 1967. 856 p.
- CARELESS, J. M. S. *The union of the Canadas; growth of Canadian institutions, 1841-1957.* Toronto, McClelland and Stewart, 1967. 256 p. (Canadian centenary series, 10)
- CHADWICK, St. John. *Newfoundland; island into province.* Cambridge, University Press, 1967. 268 p.
- CLARK, Gerald. *Canada: the uneasy neighbor.* Toronto, McClelland and Stewart, 1965. 433 p.
- CLASSEN, H. G. *Thrust and counterthrust; the genesis of the Canada-United States boundary.* Don Mills, Longmans, 1965. 386 p.
- Confederation; essays by D. G. Creighton and others.* Introd. by Ramsay COOK. Toronto, University of Toronto Press, 1967. 118 p. (Canadian historical readings, 3)
- CORNELL, P. G. *Canada, unity in diversity by Paul G. Cornell and others.* Introd. by William KILBOURN. Toronto, Holt, Rinehart and Winston, 1967. 529 p.
- FIRTH, Edith G., ed. *The town of York, 1815-1834; a further collection of documents of early Toronto.* Toronto, University of Toronto Press, 1966. 381 p.
- FRASER, Blair. *The search for identity; Canada, 1945-1967.* Toronto, Doubleday, 1967. 325 p. (Canadian history series, v. 6)
- GORDON, W. L. *Le Canada à l'heure du choix.* Traduit par Hélène J. GAGNON. Montréal, éditions HMH, 1966. 139 p. (Collection aujourd'hui)

- GORDON, W. L. *A choice for Canada; independence or colonial status.* Toronto, McClelland and Stewart, 1966. 125 p.
- GRAY, J. H. *The winter years; the depression on the Prairies.* Toronto, Macmillan, 1966. 220 p.
- GREENHILL, Basil, and GIFFARD, Ann. *Westcountrymen in Prince Edward's Isle; a fragment of the great migration.* Toronto, University of Toronto Press, 1967. 248 p.
- HARRIS, R. C. *The seigneurial system in early Canada; a geographical study.* Madison, University of Wisconsin Press; Québec, Presses de l'Université Laval, 1966. 247 p.
- HITSMAN, J. M. *The incredible War of 1812; a military history.* Toronto, University of Toronto Press, 1965. 265 p.
- HUBBARD, R. H. *Rideau Hall; an illustrated history of Government House, Ottawa.* Ottawa, Queen's Printer, 1967. 139 p. (To be completed in 2 v.)
- HUBBARD, R. H. *Rideau-Hall; histoire illustrée de la résidence du Gouverneur général à Ottawa.* Ottawa, Imprimeur de la Reine, 1967. 139 p. (Doit comprendre 2 v.)
- JENKINS, Kathleen. *Montreal; island city of the St. Lawrence.* Garden City, N.Y., Doubleday, 1966. 559 p. (The romance of Canadian cities series, 2)
- JULIEN, Claude. *Le Canada; dernière chance de l'Europe.* Paris, Grasset, 1965. 294 p.
- KERR, D. G. G., ed. *A historical atlas of Canada.* Cartography preparation by C. C. J. BOND, drawing by E. M. WALSH. 2d ed. Toronto, Nelson, 1966. 120 p.
- KERR, D. G. G., and DAVIDSON, R. I. K., eds. *Canada; a visual history.* Toronto, Nelson, 1966. 170 p. (Complements D. G. G. Kerr's "A historical atlas of Canada")
- LANCOT, Gustave. *Le Canada et la Révolution américaine.* Montréal, Beauchemin, 1965. 330 p.
- LANCOT, Gustave. *Canada and the American Revolution, 1774-1783.* Trans. by Margaret M. CAMERON. Toronto, Clarke, Irwin, 1967. 321 p.
- LANCOT, Gustave. *Montréal sous Maisonnewe, 1642-1665.* Montréal, Beauchemin, 1966. 333 p.
- LEFOLH, Kenneth. *The Canadian look; a century of sights and styles.* Toronto, Canadian Centennial Pub. Co., 1965. 123 p.
- MACINTYRE, D. E. *Canada at Vimy.* Toronto, P. Martin Associates, 1967. 229 p.
- McKENZIE, Ruth. *Leeds and Grenville; their first two hundred years.* Toronto, McClelland and Stewart, 1967. 243 p.
- MACNUTT, W. S. *The Atlantic Provinces; the emergence of colonial society 1712-1857.* Toronto, McClelland and Stewart, 1965. 305 p. (Canadian century series, 9)
- MARIE DE L'INCARNATION, Mère. *Word from New France; the selected letters of Marie de l'Incarnation.* Trans. and ed. by Joyce MARSHALL. Toronto, Oxford University Press, 1967. 435 p.
- MASSÉ, Vincent. *Confederation on the march; views on major Canadian issues during the sixties.* Toronto, Macmillan, 1965. 101 p.
- MATHEWS, Hazel. *The mark of honour.* Toronto, University of Toronto Press, 1965. 220 p. (Canadian studies in history and government, 6) (An account of the Loyalist Scots who moved to Canada from the U.S. following the American Revolution)
- MOIR, J. S., ed. *Church and State in Canada, 1627-1867; basic documents.* Toronto, McClelland and Stewart, 1967. 274 p. (The Carleton library, no. 33)
- MORCHAIN, Janet K. *Search for a nation; French-English relations in Canada since 1759.* Toronto, Dent, 1967. 175 p.
- MOWAT, F. M. *Westviking; the ancient Norse in Greenland and North America.* Toronto, McClelland and Stewart, 1965. 494 p.
- NEATBY, Hilda. *Quebec; the revolutionary age, 1760-1791.* Toronto, McClelland and Stewart, 1966. 300 p. (Canadian century series, 6)
- NISH, J. C., ed. *The French Canadians, 1759-1766: conquered? half-conquered? liberated?* Trans., ed. and selected by Cameron NISH. Vancouver, Copp Clark, 1966. 148 p. (Issues in Canadian history)
- NISH, J. C., ed. and trans. *The French régime.* Scarborough, Prentice-Hall, 1965. 176 p. (Canadian historical documents series, v. 1)
- NISH, J. C., éd. *Le régime français, 1534-1760.* Textes choisis et rédigés par Cameron NISH. Scarborough, Prentice-Hall, 1966. 190 p. (Histoire du Canada: textes et documents, T. 1)
- NISH, M. Elizabeth A., ed. *Racism or responsible government; the French Canadian dilemma of the 1840's.* Trans., ed. and selected by Elizabeth NISH. Toronto, Copp Clark, 1967. 184 p. (Issues in Canadian history)
- PHILLIPS, R. A. J. *The East Block of the Parliament Buildings of Canada; some notes about the building and about the men who shaped Canada's history within it.* Ottawa, Queen's Printer, 1967. 68 p.
- PHILLIPS, R. A. J. *Édifice de l'Est des édifices parlementaires du Canada; quelques notes sur le bâtiment et sur ceux qui y ont infléchi le cours de l'histoire du Canada.* Ottawa, Imprimeur de la Reine, 1967. 68 p.
- PHILLIPS, R. A. J. *Canada's North.* Toronto, Macmillan, 1967. 306 p.

- RADDALL, T. H. *Halifax, warden of the North*. Garden City, N.Y., Doubleday, 1965. 340 p. (The romance of Canadian cities series)
- RAWLYK, G. A., ed. *Historical essays on the Atlantic Provinces*. Toronto, McClelland and Stewart, 1967. 262 p. (The Carleton library, no. 35)
- REAMAN, G. E. *The trail of the Iroquois Indians; how the Iroquois nation saved Canada for the British Empire*. Toronto, P. Martin Associates, 1967. 138 p.
- RICH, E. E. *The fur trade and the Northwest to 1857*. Toronto, McClelland and Stewart, 1967. 336 p. (Canadian centenary series, 11)
- ROBINSON, P. J. *Toronto during the French régime; a history of the Toronto region from Brulé to Simcoe, 1615-1793*. 2d ed. Toronto, University of Toronto Press, 1965. 274 p.
- SHELTON, W. G., ed. *British Columbia and Confederation*. Victoria, Published for the University of Victoria by Morris Print. Co., 1967. 250 p.
- SHORTT, Adam, ed. *Canada and its provinces; a history of the Canadian people and their institutions, by one hundred associates*. General editors: Adam SHORTT and Arthur G. DOUGHTY. Edinburgh ed. 1914-17. (Reissued 1966 by the University of Toronto Press) 23 v.
- SMALLWOOD, J. R. *Peril and glory*. Hull, Que., High Hill Pub. House, 1966. 52 p.
- STANLEY, G. F. G. *The story of Canada's flag; a historical sketch*. Toronto, Ryerson Press, 1965. 96 p.
- SWETTENHAM, J. A. *To seize the victory; the Canadian Corps in World War I*. Toronto, Ryerson Press, 1965. 265 p.
- TRUDEL, Marcel. *Atlas historique du Canada français, des origines à 1867*. Éd. remaniée. Québec, Presses de l'Université Laval, 1961. 93 p.
- TRUDEL, Marcel. *Histoire de la Nouvelle-France*. v. 1, 1524-1603. v. 2, 1604-1627. Montréal, Fides, 1963-1966. 2 v.
- UNIVERSITY LEAGUE FOR SOCIAL REFORM. *Nationalism in Canada*. Ed. by Peter RUSSELL. Toronto, McGraw-Hill, 1966. 377 p.
- UPTON, L. F. S., ed. *The United Empire loyalists: men and myths*. Toronto, Copp Clark, 1967. 174 p. (Issues in Canadian history)
- WADE, Mason. *Les Canadiens français de 1760 à nos jours*. Traduit de l'anglais par Adrien VENNE, avec le concours de Francis DUFAY-LABEYRIE. Montréal, Cercle du livre de France, 1963. 2 v. (L'Encyclopédie du Canada français, 3-4)
- WATTE, P. B., ed. *Pre-Confederation*. Scarborough, Prentice-Hall, 1965. 242 p. (Canadian historical documents series, v. 2)
- WALKER, F. N. *Sketches of old Toronto*. Don Mills, Longmans, 1965. 350 p.
- WALLOT, J.-P. *Intrigues françaises et américaines au Canada, 1800-1802*. Montréal, Éditions Leméac, 1965. 142 p.
- WALSH, H. H. *The Church in the French era from colonization to the British conquest*. Toronto, Ryerson Press, 1966. 221 p.
- WHITELAW, W. M. *The Maritimes and Canada before Confederation*. Toronto, Oxford University Press, 1966. 347 p. (An Oxford in Canada paperback, OCP 8)
- WOOD, H. F. *Vimy!* Toronto, Macmillan, 1967. 186 p.
- WORTHINGTON, Clara E. *Amid the guns below; the story of the Canadian Corps, 1914-1919*. Toronto, McClelland and Stewart, 1965. 171 p.
- ZASLOW, Morris, and TURNER, W. B., eds. *The defended border: Upper Canada and the War of 1812; a collection of writings giving a comprehensive picture of the War of 1812 in Upper Canada*. Edited for the Ontario Historical Society. Toronto, Macmillan, 1964. 370 p.

Literature and the Arts

- ALLEN, R. T. *A treasury of Canadian humour*. Toronto, McClelland and Stewart, 1967. 128 p.
- ANGUS, Margaret. *The old stones of Kingston; its buildings before 1867*. Photos by G. E. O. LILLEY. Toronto, University of Toronto Press, 1966. 120 p.
- ARTHUR, E. R. *Toronto, no mean city*. Toronto, University of Toronto Press, 1964. 280 p.
- BELL, I. F., and PORT, Susan W., eds. *Canadian literature. Littérature canadienne, 1959-1963*. A checklist of creative and critical writings. Bibliographie de la critique et des oeuvres d'imagination. Vancouver, Publications Centre, University of British Columbia, 1966. 140 p.
- BISSELL, C. T., comp. *Great Canadian writing; a century of imagination*. Toronto, Canadian Centennial Pub. Co., 1966. 127 p. (The Canadian centennial library)
- BOSQUET, Alain, éd. *La poésie canadienne contemporaine de langue française*. Éd. augm. Montréal, Éditions HMH, 1966. 271 p.

- BRAULT, Lucien, et al., eds. *A century of reporting; the National Press Club anthology. Un siècle de reportage; anthologie du Cercle national des journalistes.* Toronto, Clarke, Irwin, 1967. 301 p.
- CANADA. National Museum. *Twenty ethnic songs from western Canada*, by K. PEACOCK. Ottawa, Queen's Printer, 1966. 91 p. (Its bulletin, 211) (Anthropological series, no. 76)
- CANADIAN BROADCASTING CORPORATION. International Service. *Thirty-four biographies of Canadian composers. Trente-quatre biographies de compositeurs canadiens.* Montreal, 1964. 110 p. (Text bilingual)
- La Chanson française par Jacques Charpentreau et autres.* Montréal, Éditions Bellarmin, 1965. 136 p. (Collection "Collège et famille", n° 1)
- COLLARD, Elizabeth. *Nineteenth-century pottery and porcelain in Canada.* Montreal, McGill University Press, 1967. 441 p.
- COLLET, Paulette. *L'Hiver dans le roman canadien-français.* Québec, Presses de l'Université Laval, 1965. 281 p. (Vie des lettres canadiennes, 3)
- CREIGHTON, Helen, comp. *Songs and ballads from Nova Scotia.* Rev. ed. New York, Dover Publications, 1966. 333 p.
- DUVAL, Paul. *Group of Seven drawings.* Toronto, Burns and MacEachern, 1965. 1 v. (chiefly illus.)
- EGOFF, Sheila. *The republic of childhood; a critical guide to Canadian children's literature in English.* Toronto, Oxford University Press, 1967. 287 p.
- ETHIER-BLAIS, Jean. *Signets.* Montréal, Cercle du livre de France, 1967. 2 v.
- FALARDEAU, J.-C. *Notre société et son roman.* Montréal, Éditions HMH, 1967. 234 p. (Sciences de l'homme et humanisme, 1)
- FOWKE, Edith, and MILLS, Alan. *Canada's story in song.* Rev. ed. Piano accompaniments by Helmut BLUME. Guitar accompaniments by Bram MORRISON. Toronto, W. J. Gage, 1965. 230 p. (Songs accompanied by explanatory text)
- The Gallery of Canadian Art.* Toronto, McClelland and Stewart, 1962-65.
v. 1 and 2 out of print.
v. 3. *David Milne*, by Alan JARVIS. 16 p., 30 p. of illus.
v. 4. *Alfred Pellam*, by D. W. BUCHANAN. 15 p., 30 p. of illus.
v. 5. *On the enjoyment of modern art; an explanatory text.* Illus. by Canadian paintings. 72 p.
- GENUIST, Monique. *La création romanesque chez Gabrielle Roy.* Montréal, Cercle du livre de France, 1966. 174 p.
- GILLESE, J. P., ed. *Chinook arch; a centennial anthology of Alberta writing.* Edmonton, 1967. 350 p.
- GOWANS, A. W. *Building Canada; an architectural history of Canadian life.* Rev. and enl. ed. Toronto, Oxford University Press, 1966. 412 p. (First ed. 1958, under title "Looking at architecture in Canada")
- GRANDPRÉ, Pierre de. *Dix ans de vie littéraire au Canada français.* Montréal, Beauchemin, 1966. 293 p.
- GRANDPRÉ, Pierre de. *Histoire de la littérature française du Québec.* T. 1. 1534-1900. Montréal, Librairie Beauchemin, 1967- 363 p.
- Great Canadian painting; a century of art.* Toronto, Canadian Centennial Pub. Co., 1966. 127 p. (The Canadian centennial library)
- GREEN, H. G., and SYLVESTRE, Guy, comps. *A century of Canadian literature. Un siècle de littérature canadienne.* Toronto, Ryerson Press; Montréal, Éditions HMH, 1967. 599 p.
- GREENHILL, R. A. *Early photography in Canada.* Toronto, Oxford University Press, 1965. 173 p.
- HARPER, J. R. *Painting in Canada; a history.* Toronto, University of Toronto Press, 1966. 443 p.
- HARPER, J. R. *La peinture au Canada des origines à nos jours.* Québec, Presses de l'Université Laval, 1966. 442 p.
- HOUSTON, James. *Eskimo prints.* Trans. by Colette Gaudin. Barre, Mass., Barre Publishers, 1967. 110 p. (Text bilingual, English and French)
- JAMESON, D. C. *The troubled air; a frank, thorough and sometimes disturbing look at the present state of Canadian broadcasting by a noted broadcaster.* Fredericton, Brunswick Press, 1966. 237 p.
- JOHNSON, E. Pauline. *Pauline Johnson: her life and work; her biography written by, and her prose and poems selected by Marcus VAN STEEN.* Toronto, Musson, 1965. 279 p.
- KALLMAN, Helmut. *A history of music in Canada 1534-1914.* Toronto, University of Toronto Press, 1960. 311 p.
- KLINCK, C. F., and WATTERS, R. E., eds. *Canadian anthology.* Rev. ed. Toronto, Gage, 1966. 626 p. (Selected poetry and prose from English-Canadian literature)
- KLINCK, C. F., et al., eds. *Literary history of Canada; Canadian literature in English.* Toronto, University of Toronto Press, 1965. 945 p.
- LAYTON, Irving. *Collected poems.* Toronto, McClelland and Stewart, 1965. 353 p.
- LE PENNEC, J.-C. *L'univers poétique de Félix Leclerc.* Montréal, Fides, 1967. 267 p. (Études littéraires)

- MACKENZIE, W. R., comp. *Ballads and sea songs from Nova Scotia*. Hatboro, Pa., Folklore Associates, 1963. 421 p.
- The McMichael Conservation collection of art, Kleinburg, Ontario*. Toronto, Clarke, Irwin, 1967. 102 p. chiefly illus.
- MARCOTTE, Gilles, éd. *Présence de la critique; critique et littérature contemporaines au Canada français*. Montréal, Éditions HMH, 1966. 254 p.
- MILNE, W. S., comp. *Canadian full-length plays in English; a preliminary annotated catalogue*. Ottawa, Dominion Drama Festival, 1964. 47 p.
- MILNE, W. S., comp. *Canadian full-length plays in English, II*. Ottawa, Dominion Drama Festival, 1966. 39 p. (A supplement to the preliminary annotated catalogue)
- PACEY, Desmond. *Creative writing in Canada; a short history of English Canadian literature*. 2d ed. Toronto, Ryerson Press, 1961. 314 p.
- PARADIS, Suzanne. *Femme fictive, femme réelle; le personnage féminin dans le roman féminin canadien-français, 1884-1966*. Québec, Garneau, 1966. 330 p.
- PEACOCK, Kenneth. *Songs of the Newfoundland outports*. Ottawa, Queen's Printer, 1965. 3 v. (National Museum of Canada bulletin no. 197)
- QUÉBEC. Ministère des Affaires culturelles. *Collection art, vie et sciences au Canada français*. Québec, 1964-1967.
- T. 1. *Panorama des lettres canadiennes-françaises* par Guy SYLVESTRE. 1964. 76 p.
 - T. 2. *Le théâtre au Canada français* par Jean HAMELIN. 1964. 83 p.
 - T. 3. *La peinture moderne au Canada français* par Guy VIAU. 1964. 93 p.
 - T. 4. *La vie musicale au Canada français* par Annette LASALLE-LEDUC. 1964. 99 p.
 - T. 5. *La vie des sciences au Canada français* par Cyrias OUELLET. 1964. 91 p.
 - T. 6. *L'essor des sciences sociales au Canada français* par J.-C. FALARDEAU. 1964. 65 p.
 - T. 7. *La renaissance des métiers d'art au Canada français* par Laurent et Suzanne LAMY. 1967. 84 p.
 - T. 8. *Vingt ans de cinéma au Canada français* par Robert DAUDELIN. 1967. 69 p.
- QUEBEC. Department of Cultural Affairs. *Series on the arts, humanities and sciences in French Canada*. Québec, 1967-
- v. 1. *Literature in French Canada* by Guy SYLVESTRE. 1967. 80 p.
 - v. 3. *Modern painting in French Canada* by Guy VIAU. 1967. 93 p.
 - v. 6. *The rise of social sciences in French Canada* by J.-C. FALARDEAU. 1967. 67 p.
- RECHERCHES SOCIOGRAPHIQUES. Colloque. 2^e, Québec, 1964. *Littérature et société canadiennes-françaises*; ouvrage réalisé sous la direction de Fernand DUMONT et J.-C. FALARDEAU. Québec, Presses de l'Université Laval, 1964. 272 p.
- RIMANELLI, Giose, and RUBERTO, Roberto, eds. *Modern Canadian stories*. Toronto, Ryerson Press, 1966. 402 p.
- ROBERT, Guy. *École de Montréal; situation et tendances—situation and trends*. Traduction anglaise de George LACH. Montréal, Éditions du Centre de psychologie et de pédagogie, 1964. 150 p. (Collection Artistes canadiens, 3)
- ROBIDOUX, Réjean, et RENAUD, André. *Le roman canadien-français du vingtième siècle*. Ottawa, Éditions de l'Université d'Ottawa, 1966. 221 p. (Visage des lettres canadiennes)
- Le roman canadien-français; évolution, témoignages, bibliographie*. Montréal, Fides, 1964. 458 p. (Archives des lettres canadiennes, t. 3)
- SCAMMELL, A. R. *My Newfoundland; stories, poems, songs*. Montreal, Harvest House, 1966. 140 p.
- SCOTT, F. R., and SMITH, A. J. M., eds. *The blasted pine; an anthology of satire, invective and disrespectful verse chiefly by Canadian writers*. Rev. and enl. ed. Toronto, Macmillan, 1967. 166 p.
- SMITH, A. J. M. *The book of Canadian prose*. v. 1. *Early beginnings to Confederation*. Toronto, Gage, 1965.
- SMITH, A. J. M. *The Oxford book of Canadian verse in English and French, 1960*. Toronto, Oxford University Press, 1965. 445 p. (An Oxford in Canada paperback, 1)
- SPENCE, Hilda, and SPENCE, Kevin. *A guide to early Canadian glass*. Don Mills, Longmans, 1966. 112 p.
- STEPHENS, Donald. *Bliss Carman*. New York, Twayne Publishers, 1966. 144 p. (Twayne's world authors series, 8)
- STEVENS, Gerald. *Canadian glass c. 1825-1925*. Toronto, Ryerson Press, 1967. 262 p.
- STORY, Norah. *The Oxford companion to Canadian history and literature*. Toronto, Oxford University Press, 1967. 935 p.
- STRATFORD SHAKESPEAREAN FESTIVAL FOUNDATION OF CANADA. *The Stratford Festival story, 1953-1966*. Stratford, 1966. 29 p.
- SWINTON, George. *Eskimo sculpture. Sculpture esquimaude*. Toronto, McClelland and Stewart, 1965. 224 p. (Text bilingual)

- SYLVESTRE, Guy. *Anthologie de la poésie canadienne-française*. 4^e éd. Montréal, Beauchemin, 1964. 376 p.
- THERIO, Adrien. *Conteurs canadiens-français; époque contemporaine*. Montréal, Librairie Déom, 1965. 322 p. (Anthologie formée de récits de vingt-trois auteurs)
- TOUGAS, Gérard. *Histoire de la littérature canadienne-française*. 3^e éd. Paris, Presses universitaires de France, 1966. 312 p.
- TOUGAS, Gérard. *History of French-Canadian literature*. Translation by Alta L. Cook. 2d ed. Toronto, Ryerson Press, 1966. 301 p.
- TWEEDIE, R. A., COGSWELL, Fred, and MACNUTT, W. S., eds. *Arts in New Brunswick*. Fredericton, Brunswick Press, 1967. 280 p.
- WEAVER, R. L., ed. *Canadian short stories*. Toronto, Oxford University Press, 1966. 420 p. (An Oxford in Canada paperback, 7)
- WEIR, E. A. *The struggle for national broadcasting in Canada*. Toronto, McClelland and Stewart, 1965. 477 p.
- WHITTAKER, Herbert. *Canada's National Ballet*. Toronto, McClelland and Stewart, 1967. 105 p.
- WILSON, M. T., ed. *Poetry of midcentury, 1940-1960*. Toronto, McClelland and Stewart, 1964. 237 p. (New Canadian library original, no. 04. Poets of Canada, v. 3)
- WILSON, M. T., ed. *Poets between the wars: E. J. Pratt, F. R. Scott, A. J. M. Smith, Dorothy Livesay, A. M. Klein*. Toronto, McClelland and Stewart, 1967. 194 p. (New Canadian library original, no. 05. Poets of Canada, v. 2)
- WILSON, R. D. *Le passé vivant de Montréal. The living past of Montreal*. (Texte de Eric McLEAN. Version française de Paul ROUSSEL.) Montréal, McGill University Press, 1964. 11 p., 10 pl.
- WYCZYNSKI, Paul. *François-Xavier Garneau; aspects littéraires de son œuvre*. Ottawa, Éditions de l'Université d'Ottawa, 1966. 207 p. (Visage des lettres canadiennes)

General Reference Works

- ANGER, W. H., and ANGER, H. D. *A digest of Canadian law*. 19th ed. by F. R. HUME. Toronto, Canada Law Book Co., 1967. 821 p.
- The Atlantic year book*. Fredericton, N.B. Published for the Atlantic Advocate by Brunswick Press. Annual.
- BOULT, Reynald, comp. *Bibliographie du droit canadien*. Montréal, Wilson et Lafleur, 1966. 393 p.
- BOULT, Reynald, comp. *A bibliography of Canadian law*. Montreal, Wilson and Lafleur, 1966. 393 p.
- CANADA. Department of Public Printing and Stationery. *Canadian government publications catalogue*. Ottawa, Queen's Printer. Annual.
- CANADA. Département des impressions et de la papeterie publiques. *Publications du gouvernement canadien; catalogue*. Ottawa, Imprimeur de la Reine. Annuel.
- CANADA. Dominion Bureau of Statistics. *Canada one hundred 1867-1967*. Ottawa, Queen's Printer, 1967. 512 p. (A Centennial volume published in lieu of "Canada 1967; official handbook of present conditions and recent progress")
- CANADA. Bureau fédéral de la statistique. *Canada un siècle 1867-1967*. Ottawa, Imprimeur de la Reine, 1967. 512 p. (Édition spéciale pour le Centenaire, qui remplace "Canada 1967; revue officielle de la situation actuelle et des progrès récents")
- CANADA. Dominion Bureau of Statistics. *Canada year book*. Ottawa, Queen's Printer. Annual.
- CANADA. Bureau fédéral de la statistique. *Annuaire du Canada*. Ottawa, Imprimeur de la Reine. Annuel.
- CANADA. Dominion Bureau of Statistics. *Daily bulletin*. Ottawa, Queen's Printer.
- CANADA. Bureau fédéral de la statistique. *Le bulletin quotidien*. Ottawa, Imprimeur de la Reine.
- CANADA. Dominion Bureau of Statistics. *Canadian statistical review*. Ottawa, Queen's Printer. Monthly, with weekly and bilingual annual supplements.
- CANADA. Bureau fédéral de la statistique. *Revue statistique du Canada*. Ottawa, Imprimeur de la Reine. Mensuel avec suppléments hebdomadaires.
- CANADA. Dominion Bureau of Statistics. *Publications of the Dominion Bureau of Statistics, 1964. Bureau fédéral de la statistique; publications*. Ottawa, Queen's Printer, 1965. 325 p.
- CANADA. Dominion Bureau of Statistics. *National accounts, income and expenditure*. Ottawa, Queen's Printer. Quarterly and annual.
- CANADA. National Library. *Canadiana; publications of Canadian interest noted by the National Library*. Ottawa, Queen's Printer. Monthly, with annual cumulation.

- CANADA. Bibliothèque nationale. *Canadiana; publications se rapportant au Canada notées par la Bibliothèque nationale*. Ottawa, Imprimeur de la Reine. Mensuel, avec refonte annuelle.
- CANADA. National Library. *Canadiana, 1950-1962, index*. Ottawa, Queen's Printer, 1965. 2 v.
- CANADA. Bibliothèque nationale. *Canadiana, 1950-1962, index*. Ottawa, Imprimeur de la Reine, 1965. 2 v.
- Canada careers directory for university graduates*. Choisissez votre carrière, pour diplômés universitaires. Montreal, Cornmarket Press. Bilingual. Bilingue. Annual. Annuel.
- Canada legal directory, for the legal profession, containing the names of the judges, lawyers, court officials, etc., throughout Canada*. Toronto, Canada Legal Directory (125 Lowther Ave.) Annual.
- Canadian almanac and directory*. Toronto, Copp Clark. Annual.
- Canadian annual review*. Toronto, University of Toronto Press. (Includes some text in French)
- CANADIAN CULTURAL INFORMATION CENTRE. *Some Canadian cultural organizations. Certaines organisations culturelles canadiennes*. Ottawa, 1965. 72 p. (Text bilingual)
- The Canadian dictionary; French-English, English-French*. Concise ed. Toronto, McClelland and Stewart, 1962. 861 p.
- Dictionnaire canadien; français-anglais, anglais-français*. Éd. abrégée. Toronto, McClelland and Stewart, 1962. 861 p.
- Canadian hospital directory*. Toronto, Canadian Hospital Association. Annual.
- Canadian medical directory*. Toronto, Secombe House. Annual.
- Canadian news facts*. Toronto. v. 1- Jan. 16, 1967- Published every two weeks.
- Canadian periodical index; an author and subject index*. Jan. 1938-Dec. 1947. Ottawa, Canadian Library Association, Association canadienne des bibliothèques, 1966. 3 v.
- Canadian periodical index. Index de périodiques canadiens*. Ottawa, Canadian Library Association, Association canadienne des bibliothèques. Monthly. Mensuel.
- Catalogue de l'édition au Canada français, 1938-67*. Montréal, Conseil supérieur du livre, 1966. 358 p.
- Encyclopedia Canadiana*. Centennial ed. Toronto, Grolier of Canada, 1966. 10 v.
- GARIGUE, Philippe. *Bibliographie du Québec (1955-1965) par Philippe GARIGUE avec la collaboration de Raymonde SAVARD*. Montréal, Presses de l'Université de Montréal, 1967. 227 p.
- HENDERSON, G. F. *Federal royal commissions in Canada, 1867-1966; a checklist*. Toronto, University of Toronto Press, 1967. 212 p.
- Index to Canadian legal periodical literature, 1963-65*. Montreal, Canadian Association of Law Libraries, 1966. 316 p.
- LAWRENCE LANDE FOUNDATION FOR CANADIAN HISTORICAL RESEARCH. *Confederation pamphlets; a check-list—liste abrégée*. Montreal, McGill University, 1967. 67 p. (Its Publications no. 3)
- Library directory. Répertoire des bibliothèques canadiennes*. Part II of January issue of Canadian Library. Canadian Library Association, Association canadienne des bibliothèques. Ottawa. Annual. Annuel.
- Livres et auteurs canadiens; panorama de la production littéraire*. Montréal, Éditions Jumonville. Annuel.
- MCGILL UNIVERSITY, Montreal. Library. *The Lawrence Lande Collection of Canadiana; a bibliography*. Collected, arranged and annotated by Lawrence LANDE. Montreal, Lawrence Lande Foundation for Canadian Historical Research, 1965. 301 p.
- PRIESTLEY, F. E. L. *The humanities in Canada; a report prepared for the Humanities Research Council of Canada*. Toronto, University of Toronto Press, 1964. 246 p. (Bibliography of scholarly publications, pp. 98-246)
- ROY, G. R., and GNAROWSKI, Michael, comps. *Canadian poetry; a supplementary bibliography*. Quebec, Culture, 1964. 13 p. (Intended as a supplement to existing bibliographies, notably to *A check list of Canadian literature and background material, 1628-1950*, by R. E. WATERS)
- Slavica Canadiana*. Winnipeg, Canadian Association of Slavists. Annual.
- TANGHE, Raymond. *Bibliography of Canadian bibliographies*. Toronto, University of Toronto Press, 1960. 206 p. With biennial supplements.
- TANGHE, Raymond. *Bibliographie des bibliographies canadiennes*. Toronto, University of Toronto Press, 1960. 206 p. Avec suppléments biennaux.
- TORONTO. Public Library. *Books for youth; a guide for teen-age readers*. Ed. by Catherine C. ROBERTSON and others. 3d ed. Toronto, 1966. 154 p.
- URQUHART, M. C., and BUCKLEY, K. A. H. *Historical statistics of Canada*. Cambridge, Eng., University Press; Toronto, Macmillan, 1965. 672 p.
- WATERS, R. E., and BELL, I. F., comps. *On Canadian literature, 1806-1960; a check list of articles, books and theses on English-Canadian literature, its authors, and language*. Toronto, University of Toronto Press, 1966. 165 p.

Section 2.—Federal Government Information Services

The chief source of statistical information on all phases of the economy of Canada is the Dominion Bureau of Statistics where the ten-year and five-year censuses of Canada are planned and statistical information of all kinds—federal and provincial—is centralized. Certain areas of effort, such as trade and commerce, customs and excise, currency and banking, navigation, transportation, radio, population and national defence are constitutionally federal affairs and on such subjects the respective departments at Ottawa are the proper sources of information with which to communicate. Other fields of effort such as the administration of lands and natural resources, education, roads and highways, and health and hospitals are the responsibility of the provinces and data may be obtained concerning the individual provincial efforts in these fields from the respective provincial government departments. However, certain federal departments are also concerned with specific aspects of these subjects and, as in the case of the Dominion Bureau of Statistics, in the co-ordination and presentation of the material for Canada as a whole. The Government of Canada, while not administering the resources within the provincial boundaries, co-operates closely with the provinces and is in a position to furnish material for Canada, especially production data on a national basis, marketing data on international, national and provincial bases, research work and experimental station data on a national basis and also on a provincial basis from Federal Government stations located within particular provinces. In agriculture, for instance, data on the breeding of livestock and the improvement of strains, on agricultural marketing and on crop yields are cases in point; in forestry, questions on forest research, forest fire protection and reforestation offer good examples.

Certain Federal Government bodies and national agencies, because of the nature of their work and the appeal it has to broad sections of the population, are organized primarily as information or publicity agencies. Among these are: the Information Division, Department of External Affairs, which deals with questions about external affairs originating in Canada and with general requests originating abroad for information on Canada and Canadian affairs; the Trade Publicity Branch, Department of Trade and Commerce; the Information Services Division, Department of National Health and Welfare; the Canadian Radio-Television Commission; and the National Film Board. The Departments of Agriculture, Fisheries, Forestry, Indian Affairs and Northern Development, and Energy, Mines and Resources, and such agencies as the National Museums of Canada, the National Library, and the National Research Council, while not thus classed, are interested in the dissemination of information to a greater extent than most of the remaining government departments, although several of the latter have publicity branches.

Thus, inquiries for information of a statistical nature should be forwarded to the Information Division, Dominion Bureau of Statistics, Ottawa. Inquiries to federal sources for information not of a statistical nature should be sent as a general rule to the individual departments and agencies of government which are listed, with their functions, at pp. 127-149 of this publication. Inquiries relating to provincial efforts may be directed to the provincial government department concerned. Inquiries about the Yukon and Northwest Territories should be addressed to the Northern Administration Branch, Department of Indian Affairs and Northern Development, Ottawa.

Section 3.—Sale of Official Publications

Under the provisions of the Public Printing and Stationery Act, the Queen's Printer, Ottawa, has charge of the sale of all official publications of Parliament and the Government of Canada that are issued to the public, as well as of the free distribution of all public documents and papers to persons and institutions (libraries) entitled by statutory provisions to receive them. The regulations relating to the distribution and sale of government

publications made in accordance with the provisions of Sect. 7 of the Public Printing and Stationery Act and Sect. 7(e) of the Financial Administration Act were brought up to date and approved by Treasury Board on Mar. 31, 1955.

In compliance with these regulations, the Queen's Printer issues the *Daily Checklist of Government Publications* which records for the information of the public service, libraries, etc., all Federal Government publications immediately upon release. Those authorized by law or regulation to receive free copies of government publications receive the *Daily Checklist* without charge; others desiring the service may purchase an annual subscription to be forwarded daily or in weekly batches as requested.

The Queen's Printer also issues the *Monthly Catalogue of Canadian Government Publications*, a comprehensive listing of all official publications, public documents and papers not of a confidential nature published at government expense, an *Annual Catalogue* (in January) listing all publications issued during the previous year, as well as sectional catalogues and selected titles bulletins advertising new government publications.

The Queen's Printer is the national sales agent in Canada for publications issued by the United Nations; the United Nations Educational, Scientific and Cultural Organization; the World Health Organization; the Food and Agriculture Organization; the Organization for Economic Co-operation and Development; the International Atomic Energy Agency; the International Civil Aviation Organization; the Council of Europe; the Commonwealth Economic Committee; the Organization of American States (Pan American Union); the General Agreement on Tariffs and Trade; the New Zealand Government; the International Labour Organization; the World Meteorological Organization; and the International Telecommunication Union.

Canadian Government and international organizations publications may be obtained from the Canadian Government bookshops located in Halifax, Ottawa, Toronto, Montreal, Winnipeg and Vancouver (see imprint on the reverse side of the title page), or by mail from the Queen's Printer, Ottawa.

Dominion Bureau of Statistics Publications.—The Dominion Bureau of Statistics acts as the agent of the Queen's Printer with respect to the sale of DBS publications. Reports of the Bureau cover all aspects of the national economy; the *Canada Year Book* and *Official Handbook Canada* constitute authoritative compendiums of information on the institutions and economic and social development of Canada.

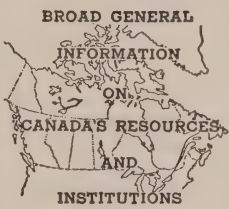
DBS publications are listed with their prices in the DBS section of the Queen's Printer's Catalogues of *Canadian Government Publications*. The *DBS Daily Bulletin* and *Weekly Bulletin*, prepared by the Information Division and available free of charge, are designed to serve persons wishing to keep closely informed on the full range of published information issued by the Bureau. Subscription orders for DBS publications or orders for single copies should be addressed to the Publications Distribution Unit, Dominion Bureau of Statistics, Ottawa, and should contain the necessary remittance in the form of a cheque or money order made payable to the Receiver General of Canada; subscription order forms may be procured from the same source.

Provincial Government Publications.—Most provincial government publications may be obtained from the Queen's Printer of the province concerned. Inquiries should be addressed to the provincial capital cities:—

Newfoundland.....	St. John's	Ontario.....	Toronto
Prince Edward Island.....	Charlottetown	Manitoba.....	Winnipeg
Nova Scotia.....	Halifax	Saskatchewan.....	Regina
New Brunswick.....	Fredericton	Alberta.....	Edmonton
Quebec.....	Quebec	British Columbia.....	Victoria

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION

NOTE.—In the "Federal Data" column, the major source of information on each subject is given first; other sources follow in alphabetical order, with the exception of the National Film Board and the Dominion Bureau of Statistics which appear at the end of each listing with which they are concerned, except where they are the major source.

Sources for Federal Data	Subject	Sources for Provincial Data
<p>Dept. of Agriculture Information Division</p> <p>Dept. of Defence Production Information Division</p> <p>Dept. of Energy, Mines and Resources Public Relations and Information Services</p> <p>Dept. of Finance Information Service</p> <p>Dept. of Fisheries Information and Consumer Service</p> <p>Dept. of Forestry and Rural Development Information and Technical Services Division</p> <p>Dept. of Indian Affairs and Northern Development Information Services Division</p> <p>Dept. of Industry Information and Promotion Branch</p> <p>Dept. of Labour Public Relations and Information Services</p> <p>Dept. of Manpower and Immigration Information Service</p> <p>Dept. of National Health and Welfare Information Services</p> <p>Dept. of National Revenue Taxation Division, Information Service</p> <p>Dept. of Trade and Commerce Trade Publicity Branch</p> <p>National Library</p> <p>Queen's Printer (<i>Canada Gazette</i>, <i>Statutes of Canada</i>, annual, monthly and sectional catalogues)</p> <p>National Film Board (films, filmstrips, photographs on all subjects)</p> <p>Dominion Bureau of Statistics</p> <p>Dept. of Agriculture Information Division</p> <p>Canadian Wheat Board</p> <p>Central Mortgage and Housing Corporation (mortgage loans for farm houses)</p> <p>Dept. of Finance (farm improvement loans)</p> <p>Dept. of Forestry and Rural Development Information and Technical Services Division (information on Agricultural and Rural Development Administration)</p> <p>Dept. of Industry Machinery Branch</p> <p>Dept. of Manpower and Immigration</p> <p>Dept. of Trade and Commerce Agriculture and Fisheries Branch</p> <p>Dept. of Veterans Affairs (veterans farm loans)</p> <p>Farm Credit Corporation (mortgage loans; Farm Machinery Syndicates Credit Act loans)</p> <p>National Research Council Prairie Regional Laboratory Saskatoon, Sask. (utilization of crops and crop products)</p> <p>Queen's Printer (agent for FAO publications)</p> <p>National Film Board</p> <p>Dominion Bureau of Statistics</p>	<p>BROAD GENERAL INFORMATION</p>  <p>AGRICULTURE General and Farming</p>	<p>For broad general information in regard to particular provinces, application should be made to: Nfld., Dept. of Provincial Affairs; P.E.I., Tourist and Information Bureau; N.S., Dept. of Provincial Secretary; N.B., Dept. of Natural Resources, Travel Bureau; Que., Dept. of Industry and Commerce, Bureau of Statistics, or Dept. of Tourism, Game and Fish; Ont., Treasury Dept., Finance and Economics Division, or Dept. of Tourism and Information; Man., Dept. of Industry and Commerce or Dept. of Provincial Secretary; Sask., Dept. of Industry and Commerce or Executive Council; Alta., Government Publicity Bureau; B.C., Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics.</p> <p>Nfld.—Dept. of Mines, Agriculture, and Resources</p> <p>P.E.I., N.S., N.B., Man., Sask., Alta., B.C.—Depts. of Agriculture</p> <p>Que.—Dept. of Agriculture and Colonization, Information and Research Branch</p> <p>Dept. of Industry and Commerce, Bureau of Statistics</p> <p>Ont.—Dept. of Agriculture and Food, Farm Economics and Statistics Branch and Information Branch</p>

<u>Sources for Federal Data</u>	<u>Subject</u>	<u>Sources for Provincial Data</u>
Dept. of Indian Affairs and Northern Development Information Services Division Dept. of Energy, Mines and Resources Polar Continental Shelf Project Observatories Branch Geological Survey of Canada Surveys and Mapping Branch Marine Sciences Branch Dept. of National Defence Information Service Defence Research Board Dept. of National Health and Welfare Dept. of Public Works Operations Directorate Planning Directorate Dept. of Transport (airports, weather stations, navigation, supply) Information Services Fisheries Research Board of Canada National Museums of Canada National Research Council Division of Building Research (permafrost, building in the North, snow and ice) Public Archives (history) National Film Board	ARCTIC	
National Gallery of Canada (collections, exhibitions of works of art) Canada Council Dept. of Indian Affairs and Northern Development Northern Administration Branch (Eskimo arts—visual only) Dept. of Secretary of State National Arts Centre National Library (books) Queen's Printer (National Gallery exhibition catalogues, reproductions of paintings, coloured slides, etc.)	ARTS Performing and Visual	Nfld.:—Dept. of Provincial Affairs P.E.I.:—Dept. of Education N.S.:—Dept. of Provincial Secretary N.B.:—Dept. of Provincial Secretary, Travel Bureau Que.:—Dept. of Cultural Affairs Ont.:—Province of Ontario Council for the Arts Man.:—Manitoba Arts Council Sask.:—Saskatchewan Arts Board (Education) Alta.:—Dept. of Provincial Secretary, Cultural Development Branch B.C.:—Dept. of Education, Community Programmes Branch
Atomic Energy of Canada Limited (research studies, sale of radio-isotopes) Atomic Energy Control Board (policy, regulations) Dept. of Energy, Mines and Resources Geological Survey of Canada Mines Branch Eldorado Mining and Refining Limited Queen's Printer (agent for International Atomic Energy Agency publications)	ATOMIC ENERGY	N.S.:—Dept. of Trade and Industry Ont.:—Dept. of Energy and Resources Management The Hydro-Electric Power Commission of Ontario Man.:—Dept. of Industry and Commerce, Manitoba Development Authority, Manitoba Research Council University of Manitoba, Physics Dept. Sask.:—University of Saskatchewan Alta.:—Alberta Research Council B.C.:—University of British Columbia
Dept. of Transport Civil Aviation Branch (control; licensing; airports and air navigation facilities) Information Services Air Canada Canadian Transport Commission Air Transport Committee Dept. of Defence Production Aerospace Branch Dept. of Energy, Mines and Resources Legal Surveys and Aeronautical Charts Division Dept. of Industry Aerospace Branch	AVIATION	Nfld.:—Dept. of Mines, Agriculture, and Resources Que.:—Quebec Government Air Services Ont.:—Dept. of Lands and Forests, Forest Protection Branch

Sources for Federal Data

Subject

Sources for Provincial Data

Dept. of National Defence
Information Service
Dept. of National Health and Welfare
Civil Aviation Medicine Division
Dept. of Trade and Commerce
Industrial Materials Branch
National Museums of Canada
National Research Council
National Aeronautical Establishment
Queen's Printer (agent for International Civil Aviation Organization publications)
National Film Board
Dominion Bureau of Statistics

AVIATION—concl.

Man.:—Manitoba Government Air Services
Dept. of Industry and Commerce
Sask.:—Dept. of Industry and Commerce, Transportation Branch

Bank of Canada
Industrial Development Bank
Central Mortgage and Housing Corporation
Dept. of Finance (for banking; also small business loans)
Dept. of Insurance (for trust and loan business; also administers the Small Loans Act)
Post Office Department, Savings Bank
Dominion Bureau of Statistics

BANKING
Trust and Loan Companies
Foreign Exchange

Nfld.:—Dept. of Finance
Dept. of Provincial Affairs
P.E.I., N.S.:—Depts. of Provincial Secretary
N.B.:—Dept. of Finance
Dept. of Provincial Secretary
Que.:—Dept. of Finance, Insurance Branch
Dept. of Industry and Commerce, Bureau of Statistics
Ont.:—Province of Ontario Savings Office
Ontario Development Corporation
Dept. of Financial and Commercial Affairs
Man.:—Dept. of Provincial Secretary
Manitoba Development Fund
Manitoba Agricultural Credit Corporation
Office of the Provincial Treasurer
Sask.:—Provincial Secretary, Registrar of Securities
Dept. of Co-operation and Co-operative Development
Alta.:—Treasury Dept., Superintendent of Treasury Branches
Dept. of Attorney General, Alberta Security Commission
B.C.:—Dept. of Finance, Inspector of Trust Companies

Dept. of Consumer and Corporate Affairs
Superintendent of Bankruptcy
Dominion Bureau of Statistics

BANKRUPTCY

Nfld.:—Dept. of Justice
P.E.I., N.S., N.B., Alta., B.C.:—Depts. of Attorney General
Que.:—Minister of Justice
Ont.:—Dept. of Financial and Commercial Affairs
Man., Sask.:—Depts. of Provincial Secretary

National Library (information re Canadian publications and books in Canadian libraries; national bibliographies of other countries)
National Gallery of Canada (information on art books and periodicals)
National Research Council
National Science Library (information re identification and location of scientific serials and research reports)
Queen's Printer (Official Classification of Canadian Government Publications; annual, monthly and sectional catalogues)
Dominion Bureau of Statistics
Information Division (for statistical publications)

BIBLIOGRAPHY

Nfld.:—Dept. of Education
Public Libraries Board
Dept. of Provincial Affairs, Archives
P.E.I.:—Dept. of Education
Legislative Librarian
N.S., N.B.:—Depts. of Education, Provincial Librarians
Que.:—Office of Provincial Secretary
Provincial Archives
Provincial Library
Dept. of Cultural Affairs
Ont.:—Dept. of Education, Provincial Library Service
Legislative Library
Man.:—Dept. of Education, Provincial Librarian
Sask.:—Provincial Library
Legislative Library
Alta.:—Dept. of Provincial Secretary
Provincial Library and Archives
B.C.:—Dept. of Provincial Secretary
Provincial Library and Archives
Public Library Commission

Sources for Federal Data	Subject	Sources for Provincial Data
	BIRTHS See "Vital Statistics"	
Dept. of National Health and Welfare Dept. of Indian Affairs and Northern Development (Y.T. and N.W.T.)	BLINDNESS ALLOWANCES	Sources same as for "Old Age Assistance"
Canadian Radio-Television Commission (formerly CBC) Canadian Overseas Telecommunication Corporation Dept. of Industry Electrical and Electronics Branch Dept. of Transport Telecommunications Branch (all matters affecting licences and facilities) National Research Council Radio and Electrical Engineering Division (radio science and its application to industry)	BROADCASTING Radio and Television	Ont.:—Ontario Provincial Police, Radio Communications Branch Ryerson Institute of Technology, Toronto, Radio Station CJRT-FM Sask.:—Dept. of Natural Resources, Communications Division Alta.:—Radio CKUA, Edmonton, operated by Alberta Government Telephones B.C.:—Dept. of Lands, Forests, and Water Resources, Radio Section
Central Mortgage and Housing Corporation (NHA financing, house designs, building standards) Canadian Government Specifications Board Canadian Standards Association Dept. of Finance (Farm Improvement Loans Act; Small Businesses Loans Act) Dept. of Indian Affairs and Northern Development Northern Administration Branch Dept. of Industry Materials Branch Wood Products Branch Dept. of Manpower and Immigration Employment Stabilization Branch (Do-it-now program and municipal winter works) Dept. of National Health and Welfare Hospital Design Division Dept. of Public Works Design Directorate Dept. of Transport Air Services Construction Branch (airport terminal buildings, etc.) Dept. of Veterans Affairs (Soldier Settlement and Veterans Land Act) Farm Credit Corporation National Research Council Division of Building Research Dominion Bureau of Statistics	BUILDING CONSTRUCTION	Nfld., N.B.:—Depts. of Public Works P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Dept. of Trade and Industry Dept. of Labour Nova Scotia Housing Commission Que.:—Farm Credit Bureau, Family Housing Division Dept. of Industry and Commerce, Bureau of Statistics Ont.:—Dept. of Labour, Factory Inspection Branch Ontario Housing Corporation Dept. of Public Works Dept. of Municipal Affairs, Community Planning Branch Man.:—Dept. of Industry and Commerce Sask.:—Dept. of Labour Alta.:—Dept. of Industry and Development, Alberta Bureau of Statistics Dept. of Labour B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Trade and Commerce Industrial Materials Branch Dept. of Industry Chemicals Branch Dominion Bureau of Statistics	CHEMICALS	Que.:—Dept. of Natural Resources Ont.:—Ontario Research Foundation Man.:—Dept. of Industry and Commerce, Manitoba Development Authority Sask.:—Dept. of Industry and Commerce B.C.:—British Columbia Research Council
Dept. of Secretary of State Citizenship Branch Citizenship Registration Branch National Film Board	CITIZENSHIP See also "Population"	Ont.:—Dept. of Provincial Secretary and Citizenship

Sources for Federal Data	Subject	Sources for Provincial Data
Emergency Measures Organization Dept. of Defence Production Emergency Supply Planning Branch Dept. of National Health and Welfare Emergency Health Services Emergency Welfare Services	CIVIL DEFENCE	Nfld.:—Dept. of Provincial Affairs P.E.I., N.S.:—Depts. of Provincial Secretary N.B.:—Dept. of Municipal Affairs Que.:—Dept. of Family and Social Welfare Ont.:—Dept. of Attorney General, Emergency Measures Organization Man.:—Dept. of Provincial Secretary, Emergency Measures Organization Sask.:—Emergency Measures Organization Executive Council Alta.:—Emergency Measures Organization B.C.:—Dept. of Provincial Secretary, Provincial Co-ordinator
Dept. of Transport Meteorological Branch, Toronto Dept. of Forestry and Rural Development Information and Technical Services Division (studies for Canada land inventory) National Research Council Division of Building Research, (Climatological Atlas of Canada, National Building Code) Queen's Printer (agent for World Meteorological Organization publications)	CLIMATE	Que.:—Dept. of Natural Resources, Meteorological Bureau Ont.:—Dept. of Agriculture, Farm Economics and Statistics Branch Man.:—Dept. of Agriculture B.C.:—Dept. of Agriculture Dept. of Lands, Forests, and Water Resources, Hydrology Division
Dept. of Energy, Mines and Resources Geological Survey of Canada Mines Branch Mineral Resources Division Dept. of Trade and Commerce Industrial Materials Branch Dominion Coal Board Dominion Bureau of Statistics	COAL	N.S.:—Dept. of Mines N.B.:—Dept. of Lands and Mines Que.:—Dept. of Natural Resources Ont.:—Dept. of Mines Dept. of Energy and Resources Management Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept., of Mineral Resources Dept. of Industry and Commerce Alta.:—Dept. of Mines and Minerals Alberta Research Council B.C.:—Dept. of Mines and Petroleum Resources
Dept. of Consumer and Corporate Affairs Director of Investigation and Research Restrictive Trade Practices Commission	COMBINES	
Dept. of Transport Telecommunications and Electronics Branch (radio aids, aeronautical and marine navigation) Information Services Meteorological Branch Canadian Overseas Telecommunication Corporation Canadian Radio-Television Commission (formerly CBC) Canadian Transport Commission Railway Committee Dept. of Indian Affairs and Northern Development Northern Administration Branch (Y. T. and N.W.T.) Dept. of Industry Electrical and Electronics Branch Queen's Printer (agent for International Telecommunication Union publications) Dominion Bureau of Statistics	COM- MUNICATIONS See also "Postal Service"	Nfld.:—Dept. of Economic Development Board of Public Utilities Commissioners P.E.I.:—Tourist and Information Bureau Dept. of Public Works N.S.:—Board of Commissioners of Public Utilities N.B.:—Dept. of Provincial Secretary, Travel Bureau Que.:—Dept. of Transportation and Communications Ont.:—Ontario Telephone Service Commission Ontario Provincial Police, Radio Communications Branch Man.:—Manitoba Telephone System Sask.:—Saskatchewan Government Telephones Alta.:—Alberta Government Telephones B.C.:—Dept. of Commercial Transport

Sources for Federal Data	Subject	Sources for Provincial Data
Central Mortgage and Housing Corporation Dept. of Forestry and Rural Development Information and Technical Services Division (rural economic development) Dept. of Indian Affairs and Northern Development Indian Affairs Branch Northern Administration Branch Dept. of National Health and Welfare (social welfare and recreation) National Capital Commission Information Division (general information on the Plan for the National Capital of Canada) National Film Board	COMMUNITY PLANNING	Nfld.:—Dept. of Municipal Affairs and Housing Dept. of Community and Social Development P.E.I., N.S., N.B.:—Depts. of Municipal Affairs Que.:—Dept. of Municipal Affairs Industrial Development Bureau Economic Advisory Council Ont.:—Dept. of Municipal Affairs, Community Planning Branch Dept. of Education, Community Programmes Branch Man.:—Dept. of Urban Development and Municipal Affairs, Planning Branch Sask.:—Dept. of Municipal Affairs, Community Planning Branch Executive Council, Economic Advisory and Planning Board Centre for Community Studies, University of Saskatchewan Alta.:—Dept. of Municipal Affairs, Town and Rural Planning Branch B.C.:—Dept. of Municipal Affairs, Regional Planning Division Lower Mainland Regional Planning Board
Dept. of Indian Affairs and Northern Development National and Historic Parks Branch, Canadian Wildlife Service Northern Administration Branch Dept. of Agriculture Prairie Farm Rehabilitation Administration Information Division Economics Branch Dept. of Fisheries Information and Consumer Service Dept. of Forestry and Rural Development Information and Technical Services Division National Capital Commission National Museums of Canada National Film Board	CONSERVATION	Nfld.:—Dept. of Mines, Agriculture, and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Natural Resources Que.:—Dept. of Lands and Forests Dept. of Tourism, Game and Fish Dept. of Natural Resources Ont.:—Dept. of Energy and Resources Management, Conservation Authorities Branch Ontario Agricultural College, Guelph Man.:—Dept. of Mines and Natural Resources, Conservation Education Branch Sask.:—Dept. of Natural Resources Dept. of Agriculture, Conservation and Development Branch B.C.:—Dept. of Lands, Forests and Water Resources Dept. of Recreation and Conservation
Privy Council Office Dept. of Consumer and Corporate Affairs (Great Seal of Canada, etc.) Dept. of Justice Dept. of Secretary of State Library of Parliament Public Archives Queen's Printer (Statutes of Canada, Hansard, Organization of the Government of Canada Handbook, etc.)	CONSTITUTION	All Provinces except Nfld., Que. and B.C.:—Depts. of Attorney General Nfld.:—Dept. of Justice Que.:—Dept. of Intergovernmental Affairs B.C.:—Provincial Secretary
Dept. of Consumer and Corporate Affairs Dominion Bureau of Statistics (indexes)	CONSUMER AFFAIRS Consumer Price Indexes See also "Cost of Living"	N.S.:—Dept. of Provincial Secretary

Sources for Federal Data

Subject

Sources for Provincial Data

Dept. of Agriculture
Economics Branch
Central Mortgage and Housing
Corporation (mortgage-lending
activities)
Dept. of Consumer and Corporate
Affairs
Corporations Branch
Dept. of Fisheries
Economics Service
Dept. of Indian Affairs and Northern
Development
Northern Administration Branch
(Eskimo co-operatives)

CO-OPERATIVES
(including Credit
Unions)

Nfld.:—Dept. of Mines, Agriculture,
and Resources
P.E.I., N.S.:—Depts. of Provincial
Secretary
N.B.:—Dept. of Agriculture
Que.:—Dept. of Agriculture and
Colonization
Dept. of Industry and Commerce,
Bureau of Statistics
Ont.:—Dept. of Agriculture and
Food, Co-operatives Branch
Man.:—Dept. of Agriculture, Co-
operative and Credit Union
Services Branch
Office of the Provincial Treasurer
Sask.:—Dept. of Co-operation and
Co-operative Development
Alta.:—Dept. of Industry and
Development, Co-operative Ac-
tivities Branch
B.C.:—Attorney General's Dept.,
Registrar of Companies

Dept. of Consumer and Corporate
Affairs
Dominion Bureau of Statistics
(wholesale and retail prices and
consumer price index)

COST OF LIVING
See also
"Consumer
Affairs"

Nfld.:—Dept. of Municipal Affairs
and Supply
N.B.:—Dept. of Finance, Economic
Adviser
Ont.:—Treasury Dept., Finance and
Economics Division
Man.:—Dept. of Industry and
Commerce, Business Research
Branch
Sask.:—Dept. of Labour
Alta.:—Dept. of Industry and
Development, Alberta Bureau
of Statistics
B.C.:—Dept. of Industrial Develop-
ment, Trade, and Commerce,
Bureau of Economics and Sta-
tistics

Canada Council
Dept. of Indian Affairs and Northern
Development
Indian Affairs Branch
National and Historic Parks
Branch
Northern Administration Branch
Dept. of Industry
Office of the Design Adviser
Dept. of Manpower and Immigration
Canada Immigration Division
Dept. of Veterans Affairs (veterans
only)
National Gallery of Canada (reference
library, films)
National Library (books)
National Museums of Canada
Public Archives
Queen's Printer (UNESCO coloured
slides)
National Film Board

**CREATIVE ARTS
AND
HANDICRAFTS**

Nfld.:—Dept. of Education
P.E.I.:—Dept. of Tourist Develop-
ment
Dept. of Education, Physical
Fitness Division
N.S.:—Dept. of Trade and Industry,
Handicrafts Division
Nova Scotia College of Art
N.B.:—Dept. of Finance and Indus-
try
Que.:—Dept. of Cultural Affairs
Dept. of Agriculture and Coloni-
zation
Ont.:—Dept. of Education, Com-
munity Programmes Branch
Dept. of Agriculture and Food,
Home Economics Service
Ontario Gift Foundation
Man.:—Dept. of Agriculture, Exten-
sion Service
Manitoba Development Authority
Sask.:—Dept. of Education, Con-
tinuing Education Branch
Saskatchewan Arts Board
Alta.:—Dept. of Provincial Secretary
B.C.:—Provincial Museum (Indian
handicrafts)
Dept. of Education, Community
Programmes Branch

Dept. of Solicitor General
Canadian Penitentiary Service
National Parole Board
Royal Canadian Mounted Police

**CRIME AND
DELINQUENCY**

All Provinces except Nfld.:—Depts.
of Attorney General
Nfld.:—Dept. of Justice
Dept. of Public Welfare
P.E.I., Sask.:—Depts. of Welfare
N.S., Alta.:—Depts. of Public Wel-
fare

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Justice Criminal Law Section Dept. of National Health and Welfare Research and Statistics Division National Film Board Dominion Bureau of Statistics	CRIME AND DELINQUENCY— concluded	Que.:—Dept. of Family and Social Welfare Dept. of Youth Dept. of Industry and Commerce, Bureau of Statistics Ont.:—Dept. of Reform Institutions B.C.:—Dept. of Social Welfare
See pp. 140-149 of this volume for a list of Crown corporations giving the functions of each and the Cabinet Minister through whom each reports to Parliament.	CROWN CORPORATIONS	(For information with regard to individual Crown corporations apply as follows:— Nfld.:—Dept. of Justice Dept. of Public Works P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Dept. of Trade and Industry N.B.:—Dept. of Finance and Industry, Treasury Board Ont.:—Dept. of Provincial Secretary Man.:—Office of the Provincial Treasurer Dept. of Public Utilities Sask.:—Government Finance Office Alta.:—Dept. of Industry and Development B.C.:—Attorney General's Dept.
Bank of Canada Dept. of Finance Royal Canadian Mint	CURRENCY	
Dept. of Agriculture Dairy Products Division Health of Animals Branch Research Branch Animal Research Institute Food Research Institute Canadian Dairy Commission Dept. of Industry Food Products Branch Dept. of Trade and Commerce Agriculture and Fisheries Branch National Film Board Dominion Bureau of Statistics	DAIRYING	Nfld.:—Dept. of Mines, Agriculture, and Resources P.E.I., N.S.:—Depts. of Agriculture N.B., Ont., Alta., B.C.:—Depts. of Agriculture, Dairy Branches (also Milk Industry Board of Ont. and Milk Control Board for B.C.) Que.:—Dept. of Agriculture and Colonization, Dairy Products Branch Dept. of Industry and Commerce, Bureau of Statistics Man.:—Dept. of Agriculture, Dairy Branch Sask.:—Dept. of Agriculture, Animal Industry Branch Milk Control Board
	DEATHS See "Vital Statistics"	
Dept. of National Defence Information Service Defence Research Board Dept. of Defence Production Canadian Commercial Corporation Canadian Arsenals Limited Dept. of External Affairs (NATO)	DEFENCE See also "Civil Defence"	
Dept. of National Health and Welfare Dept. of Indian Affairs and Northern Development (Y.T. and N.W.T.)	DISABLED PERSONS ALLOWANCES	Nfld.:—Dept. of Public Welfare, The Old Age Assistance Board P.E.I.:—Dept. of Welfare, Director of Disabled Persons Allowances N.S.:—Dept. of Public Welfare N.B.:—Dept. of Health and Welfare Old Age and Blind Assistance Board Que.:—Dept. of Family and Social Welfare, Social Allowances Commission

Sources for Federal Data	Subject	Sources for Provincial Data
<p>Dept. of Veterans Affairs (war disabled veterans)</p>	<p>DISABLED PERSONS ALLOWANCES— concluded</p>	<p>Ont.:—Dept. of Social and Family Services, Family Benefits Branch Man.:—Dept. of Welfare, The Old Age Assistance and Blind Persons' Allowances Board Sask.:—Dept. of Welfare, Director of Public Assistance Alta.:—Dept. of Public Welfare, Pensions Board B.C.:—Dept. of Social Welfare, Division for the Aged</p>
<p>Economic Council of Canada Dept. of Finance Dept. of Indian Affairs and Northern Development Resource and Economic Development Group Dept. of Manpower and Immigration Program Evaluation Branch Dept. of Secretary of State (financial support to post-secondary education)</p>	<p>ECONOMIC PLANNING</p>	<p>Nfld.:—Dept. of Economic Development Dept. of Community and Social Development N.S.:—Dept. of Finance and Economics Que.:—Dept. of Industry and Commerce, Economic Advisory Council Ont.:—Treasury Dept., Finance and Economics Division Man.:—Dept. of Urban Development and Municipal Affairs, Planning Branch Dept. of Industry and Commerce Sask.:—Dept. of Industry and Commerce Alta.:—Dept. of Industry and Development B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics</p>
<p>Bank of Canada Central Mortgage and Housing Corporation Dept. of Agriculture Economics Branch Dept. of Consumer and Corporate Affairs Research Division, Consumer Branch Dept. of Defence Production Economics and Statistics Branch Dept. of Energy, Mines and Resources Mineral Resources Division Dept. of Finance Financial Affairs Division Dept. of Fisheries Economics Service Dept. of Forestry and Rural Development Information and Technical Services Division Dept. of Indian Affairs and Northern Development Indian Affairs Branch Northern Administration Branch Resource and Economic Development Group Dept. of Industry Office of the Economic Adviser Office of the Industrial Research Adviser Dept. of Labour Public Relations and Information Services Dept. of Manpower and Immigration Research Branch Dept. of National Health and Welfare Research and Statistics Directorate Dept. of Public Works Planning Directorate Dept. of Trade and Commerce Economics Branch Dept. of Transport Transportation Policy and Research Branch</p>	<p>ECONOMIC AND SOCIAL RESEARCH</p>	<p>Nfld.:—Dept. of Economic Development Dept. of Community and Social Development P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Dept. of Trade and Industry Nova Scotia Research Foundation N.B.:—Dept. of Finance and Industry Que.:—Dept. of Industry and Commerce, Economic Research Bureau, Bureau of Statistics, Industrial Commission Branch Ont.:—Treasury Dept., Finance and Economics Division Dept. of Economics and Development Dept. of Agriculture, Farm Economics and Statistics Branch Dept. of Municipal Affairs, Community Planning Branch Alcoholism and Drug Addiction Research Foundation of Ontario Man.:—Dept. of Industry and Commerce, Business Research Branch Manitoba Development Authority Manitoba Economic Consultative Board Office of the Provincial Treasurer Dept. of Agriculture, Economic Division Sask.:—Executive Council Economic Advisory and Planning Board Dept. of Industry and Commerce Dept. of Co-operation and Co-operative Development, Research and Statistical Division Centre for Community Studies, University of Saskatchewan Alta.:—Dept. of Industry and Development</p>

Sources for Federal Data	Subject	Sources for Provincial Data
Fisheries Research Board of Canada Public Archives (early data) Queen's Printer (agent for UNESCO, Commonwealth Economic Com- mittee and OECD publications) Dominion Bureau of Statistics Dominion Bureau of Statistics Canada Council Canadian Radio-Television Commis- sion (formerly CBC) (educa- tional broadcasts) Dept. of Finance (Canada Student Loans Act) Dept. of Fisheries Information and Consumer Service Dept. of Forestry and Rural Develop- ment Information and Technical Serv- ices Division Dept. of Indian Affairs and Northern Development Indian Affairs Branch Northern Administration Branch (Y.T. and N.W.T.) Dept. of Manpower and Immigration Manpower Program Support Branch Dept. of National Defence Director of Education (service dependants' schools) Dept. of National Health and Welfare Dept. of Secretary of State (pay- ments to provinces for post- secondary education support) Dept. of Veterans Affairs (veterans and children of war dead) National Capital Commission Information and Historical Divi- sion National Gallery of Canada (lectures, tours, films) National Museums of Canada National Research Council Office for Economic Studies on Research and Development (science and engineering students registered in Canadian graduate schools) Queen's Printer (agent for UNESCO publications)	<div>ECONOMIC AND SOCIAL RESEARCH—concl.</div> <div>EDUCATION See also "Motion Pictures" and "Photographic Material"</div>	B.C.:—Dept. of Industrial Develop- ment, Trade, and Commerce, Bureau of Economics and Sta- tistics All Provinces:—Depts. of Education (technical, visual, audio and all other phases of education) Additional:—Alta.:—Dept. of La- bour, Apprenticeship Board B.C.:—Dept. of Labour, Director of Apprenticeship
Chief Electoral Office Library of Parliament Public Archives Dept. of Energy, Mines and Re- sources Energy Development Group Water Resources Branch Dept. of Industry Area Development Agency National Energy Board National Research Council Radio and Electrical Engineering Division Northern Canada Power Commis- sion National Film Board Dominion Bureau of Statistics	<div>ELECTIONS</div> <div>ELECTRIC POWER</div>	Nfld.:—Dept. of Provincial Affairs P.E.I., N.S., N.B., Ont.:—Depts. of Provincial Secretary Que.:—Chief Returning Officer Man., B.C.:—Chief Electoral Of- ficers Sask., Alta.:—Clerks of the Execu- tive Councils Nfld.:—Newfoundland and Labrador Power Commission P.E.I.:—Public Utility Commission N.S., Alta.:—Power Commissions N.B.:—New Brunswick Electric Power Commission Que.:—Hydro-Electric Commission Dept. of Natural Resources Dept. of Agriculture and Coloni- zation, Rural Electrification Bu- reau Ont.:—Dept. of Energy and Re- sources Management The Hydro-Electric Power Com- mission of Ontario Man.:—Manitoba Hydro Winnipeg City Hydro Sask.:—Saskatchewan Power Cor- poration B.C.:—British Columbia Hydro and Power Authority

Sources for Federal Data	Subject	Sources for Provincial Data
<p>Dept. of Labour Economics and Research Branch Public Relations and Information Services</p> <p>Dept. of Manpower and Immigration Canada Manpower Division (Canada Manpower Centres)</p> <p>Public Service Commission (staffing the public service)</p> <p>Queen's Printer (agent for ILO publications)</p> <p>Dominion Bureau of Statistics</p>	EMPLOYMENT	<p>Nfld., N.S., N.B., Sask.:—Depts. of Labour</p> <p>P.E.I.:—Dept. of Labour Civil Service Commission</p> <p>Que.:—Dept. of Labour, Provincial Employment Bureau</p> <p>Ont.:—Treasury Dept., Finance and Economics Division</p> <p>Dept. of Labour</p> <p>Dept. of Civil Service</p> <p>Man.:—Dept. of Labour</p> <p>Dept. of Industry and Commerce</p> <p>Alta.:—Dept. of Labour</p> <p>Dept. of Industry and Development</p> <p>B.C.:—Dept. of Labour</p> <p>Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics</p>
<p>Dept. of Indian Affairs and Northern Development Northern Administration Branch (education, welfare, handicrafts, livelihood)</p> <p>Northern Co-ordination and Research</p> <p>Dept. of National Health and Welfare (health and hospital services)</p> <p>National Museums of Canada</p>	ESKIMOS	<p>Nfld.:—Dept. of Labrador Affairs</p> <p>Dept. of Public Welfare</p> <p>Que.:—Dept. of Natural Resources, New Quebec Branch</p>
<p>Dept. of Trade and Commerce Canadian Government Exhibition Commission</p> <p>Trade Fairs and Missions Branch Trade Publicity Branch</p> <p>Central Mortgage and Housing Corporation (housing exhibits)</p> <p>Dept. of Agriculture Livestock Division</p> <p>Dept. of Energy, Mines and Resources Public Relations and Information Services</p> <p>Mineral Economics Division</p> <p>Dept. of Fisheries Information and Consumer Service</p> <p>Dept. of Forestry and Rural Development Information and Technical Services Division</p>	EXHIBITIONS	<p>Nfld.:—Dept. of Mines, Agriculture and Resources</p> <p>P.E.I., N.S., N.B.:—Depts. of Agriculture</p> <p>Que.:—Dept. of Agriculture and Colonization</p> <p>Dept. of Industry and Commerce</p> <p>Office of Provincial Secretary</p> <p>Dept. of Cultural Affairs</p> <p>Ont.:—Most Ontario Departments organize exhibitions</p> <p>Man.:—Dept. of Agriculture, Extension Service</p> <p>Dept. of Industry and Commerce</p> <p>Sask.:—Dept. of Agriculture</p> <p>Dept. of Industry and Commerce</p> <p>Alta.:—Dept. of Provincial Secretary</p> <p>Dept. of Agriculture</p> <p>Alberta Government Publicity Bureau</p> <p>B.C.:—Dept. of Agriculture</p> <p>Dept. of Industrial Development, Trade, and Commerce</p>
<p>Dept. of Indian Affairs and Northern Development Information Services Division</p> <p>Dept. of Industry Information and Promotion Branch</p> <p>Dept. of Labour Public Relations and Information Services</p> <p>Dept. of Manpower and Immigration Information Service</p> <p>Dept. of National Defence Directorate of Exhibitions and Displays</p> <p>Dept. of National Health and Welfare Information Division</p> <p>Dept. of Secretary of State Canadian War Museum</p> <p>National Capital Commission</p> <p>National Museums of Canada</p> <p>National Museum of Human History</p> <p>National Museum of Natural History</p> <p>National Museum of Science and Technology</p> <p>National Gallery of Canada</p> <p>National Film Board</p>	EXPORT PROMOTION	
<p>Dept. of Trade and Commerce Trade Commissioner Service</p> <p>Trade Fairs and Missions Branch</p> <p>Trade Publicity Branch</p>		

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of External Affairs Information Division Dept. of Labour International Labour Affairs Branch (ILO; OECD) External Aid Office Information Division Queen's Printer (agent for international organizations publications)	EXTERNAL AFFAIRS See also "Trade"	Que.:—Dept. of Intergovernmental Affairs
Dept. of National Health and Welfare Dept. of Manpower and Immigration (assistance to families entering Canada not yet eligible for family allowances)	FAMILY ALLOWANCES	
Dept. of Agriculture Production and Marketing Branch Plant Research Institute Dept. of Trade and Commerce Agriculture and Fisheries Branch National Research Council Prairie Regional Laboratory, Saskatoon, Sask. (utilization of crops and crop products) Queen's Printer (agent for FAO publications) National Film Board Dominion Bureau of Statistics	FIELD CROPS	Nfld.:—Dept. of Mines, Agriculture and Resources P.E.I., N.S., N.B.:—Depts. of Agriculture Que.:—Dept. of Agriculture and Colonization Dept. of Industry and Commerce, Bureau of Statistics Ont.:—Dept. of Agriculture and Food Man.:—Dept. of Agriculture, Soils and Crops Branch Sask.:—Dept. of Agriculture, Plant Industry Branch Alta., B.C.:—Depts. of Agriculture, Field Crops Branch
Dept. of Finance Bank of Canada Queen's Printer (agent for GATT publications) Treasury Board Dominion Bureau of Statistics	FINANCE See also "Taxation"	Nfld., B.C.:—Depts. of Finance P.E.I., Alta.:—Depts. of Provincial Treasurer N.S.:—Dept. of Finance and Economics N.B.:—Dept. of Finance and Industry Que.:—Dept. of Finance Dept. of Industry and Commerce, Bureau of Statistics Ont., Sask.:—Treasury Depts. Man.:—Office of the Provincial Treasurer
Dept. of Forestry and Rural Development Information and Technical Services Division (forest fire prevention and forest products fire retardants) Board of Transport Commissioners (forest fire protection along railway lines) Dept. of Indian Affairs and Northern Development National and Historic Parks Branch Northern Administration Branch Dept. of Public Works Dominion Fire Commissioner National Research Council Fire Research Section	FIRE PREVENTION	(All Provinces:—Provincial Fire Marshals (for urban and rural fire losses) Nfld.:—Dept. of Mines, Agriculture, and Resources P.E.I.:—Dept. of Public Works N.S.:—Dept. of Labour N.B.:—Dept. of Natural Resources Dept. of Attorney General Que.:—Dept. of Lands and Forests, Forest Protection Service Dept. of Municipal Affairs, Fire Commissioner Ont.:—Dept. of Lands and Forests, Forest Protection Branch Dept. of Public Works, Fire Prevention Officer Dept. of Attorney General, Office of the Fire Marshal Man.:—Dept. of Mines and Natural Resources Dept. of Labour, Forest Protection Branch Sask.:—Dept. of Natural Resources Dept. of Labour, Fire Commissioner Alta.:—Dept. of Lands and Forests Dept. of Provincial Secretary B.C.:—Dept. of Lands, Forests and Water Resources

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Fisheries Information and Consumer Service Dept. of Finance Fisheries Improvement Loans Act Dept. of Indian Affairs and Northern Development Canadian Wildlife Service Northern Administration Branch (Eskimo fishing co-operatives) Dept. of Industry Food Products Branch Dept. of Trade and Commerce Agriculture and Fisheries Branch Dept. of Veterans Affairs (veterans settled as commercial fishermen) Fisheries Research Board of Canada National Museums of Canada Queen's Printer (agent for FAO publications) Unemployment Insurance Commission (insurance for fishermen) National Film Board Dominion Bureau of Statistics Dept. of National Health and Welfare, Food and Drug Laboratory (for standards and methods of control of quality, purity and safety of food and drugs) Dept. of Agriculture (for inquiries on standards for meat, canned food, fruit, honey, maple products, vegetables, dairy products, poultry, etc.) Dept. of Consumer and Corporate Affairs Patent and Copyright Office (licensing of patents) Dept. of Fisheries (standards for fish products) Dept. of Industry Food Products Branch Dept. of Trade and Commerce Industrial Materials Branch Queen's Printer (agent for FAO publications)	<div>FISHERIES</div>	Nfld., P.E.I., N.S., N.B.:—Depts. of Fisheries Que.:—Dept. of Tourism, Game and Fish Dept. of Industry and Commerce, Bureau of Statistics Ont.:—Dept. of Lands and Forests, Fish and Wildlife Branch Man.:—Dept. of Mines and Natural Resources, Fisheries Branch Sask.:—Dept. of Natural Resources, Fisheries Branch Alta.:—Dept. of Lands and Forests, Fish and Game Branch B.C.:—Dept. of Recreation and Conservation Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Forestry and Rural Development Information and Technical Services Division Dept. of Industry Wood Products Branch Dept. of Trade and Commerce Industrial Materials Branch National Film Board (films, filmstrips, photographs, in relation to departmental conservation and development programs) Dominion Bureau of Statistics	<div>FOOD AND DRUGS</div> <div>See also "Nutrition"</div>	All Provinces:—Depts. of Health (sanitary inspection of food supplies)
	<div>FOREIGN AFFAIRS</div> <div>See "External Affairs"</div>	
	<div>FOREST RESOURCES AND INDUSTRIES</div>	Nfld.:—Dept. of Mines, Agriculture and Resources P.E.I.:—Dept. of Industry and Natural Resources Dept. of Agriculture N.S., Que., Ont., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Natural Resources Man.:—Dept. of Mines and Natural Resources, Forestry Branch Sask.:—Dept. of Natural Resources, Forestry Branch Dept. of Industry and Commerce Saskatchewan Timber Board B.C.:—Dept. of Lands, Forests and Water Resources Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
	<div>FUEL</div> <div>See "Coal", "Oil and Natural Gas" and "Electric Power"</div>	

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Agriculture Production and Marketing Branch Livestock Division (grading) Research Branch (production) Dept. of Indian Affairs and Northern Development Northern Administration Branch (Y.T. and N.W.T.) Dominion Bureau of Statistics	FUR FARMING See also "Trapping"	Nfld.: —Dept. of Mines, Agriculture and Resources Dept. of Economic Development P.E.I., N.S., N.B., Alta., B.C.: — Depts. of Agriculture Que.: —Dept. of Agriculture and Colonization Dept. of Industry and Com- merce, Bureau of Statistics Ont.: —Dept. of Lands and Forests Man.: —Dept. of Mines and Natural Resources, Game Branch Sask.: —Dept. of Natural Resources Saskatchewan Fur Marketing Service
Dept. of Energy, Mines and Re- sources Dept. of Agriculture Soils Research Institute Dept. of Forestry and Rural Develop- ment Information and Technical Services Division Fisheries Research Board of Canada (oceanography) Public Archives (maps; history of cartography) National Film Board	GEOGRAPHY	Nfld.: —Dept. of Mines, Agriculture and Resources P.E.I.: —Travel Bureau N.S.: —Dept. of Mines N.B.: —Dept. of Natural Resources Que.: —Dept. of Lands and Forests Dept. of Industry and Commerce, Economic Research Bureau, Drafting Division Dept. of Natural Resources Northern Studies Centre, Laval University Ont.: —Dept. of Lands and Forests, Lands and Surveys Branch Dept. of Mines Ontario Agricultural College Man.: —Dept. of Mines and Natural Resources Sask.: —Dept. of Natural Resources Dept. of Industry and Commerce Alta.: —Dept. of Lands and Forests University of Alberta Dept. of Highways, Surveys Branch B.C.: —Dept. of Lands, Forests and Water Resources
Dept. of Energy, Mines and Re- sources Geological Survey of Canada National Museums of Canada	GEOLOGY	Nfld.: —Dept. of Mines, Agriculture and Resources P.E.I.: —Dept. of Industry and Natural Resources N.S.: —Dept. of Mines N.B.: —Dept. of Natural Resources Que.: —Dept. of Natural Resources, Geological Surveys Branch Ont.: —Dept. of Mines, Geological Branch Man.: —Dept. of Mines and Natural Resources, Mines Branch Sask.: —Dept. of Mineral Resources Alta.: —Dept. of Mines and Minerals University of Alberta B.C.: —Dept. of Mines and Petro- leum Resources
Dept. of the Secretary of State (federal-provincial channel of communication) Chief Electoral Office (Electoral Act and voters lists) Dept. of Indian Affairs and Northern Development (Y.T. and N.W.T.) Library of Parliament Privy Council Office (appointments, orders in council, statutory orders and regulations) Public Archives (early official re- cords) Public Service Commission (staffing the public service) Queen's Printer (distribution and sale of statutory orders and regulations)	GOVERNMENT For Senate and House of Commons of Canada see "Parliament"	Nfld.: —Dept. of Provincial Affairs P.E.I., N.S., N.B., Ont., Man., Sask., Alta., B.C.: —Depts. of Provincial Secretary Que.: —Office of Provincial Secretary

Sources for Federal Data

Subject

Sources for Provincial Data

Dept. of National Health and Welfare
Queen's Printer (agent for WHO
publications)
National Film Board
Dominion Bureau of Statistics

HEALTH
For Health of
Veterans
see "Veterans
Affairs"

Nfld., P.E.I., Que., Ont., Man.:—
Depts. of Health
N.S., Alta.:—Depts. of Public
Health
N.B.:—Dept. of Health and Welfare
Sask.:—Dept. of Public Health
Saskatchewan Medical Care Com-
mission, Saskatchewan Cancer
Commission
B.C.:—Dept. of Health Services and
Hospital Insurance

Public Archives
Dept. of Indian Affairs and Northern
Development
National and Historic Parks
Branch
Government of the Northwest
Territories (Yellowknife, N.W.T.)
Dept. of National Defence
Directorate of History
Dept. of Secretary of State
Canadian War Museum
National Museums of Canada
National Gallery of Canada (histor-
ical paintings; war collections)
Dept. of Veterans Affairs (war
memorials and war cemeteries)
National Capital Commission (Infor-
mation and Historical Division)
National Film Board
Dominion Bureau of Statistics

HISTORY

Nfld.:—Legislative Library
Memorial University
Gosling Memorial Library
Dept. of Provincial Affairs, Public
Archives and Museum
P.E.I.:—Travel Bureau, Legislative
Library
N.S.:—Public Archives, Legislative
Library
N.B.:—Dept. of Education
Legislative Library
Que.:—Office of Provincial Secretary,
Provincial Archives
Provincial Library
Dept. of Cultural Affairs
Ont.:—Legislative Library
Dept. of Tourism and Information,
Historical Branch
Dept. of Public Records and
Archives
Man.:—Provincial Library and Ar-
chives
Sask.:—Legislative Library, Ar-
chives Division
Alta.:—Archives, Provincial Library
Dept. of Provincial Secretary,
Museum Branch
B.C.:—Dept. of Provincial Secretary,
Provincial Librarian and Ar-
chivist

Dept. of Agriculture
Production and Marketing Branch
(grading and inspection)
Fruit and Vegetable Division
Plant Products Division
Plant Protection Division
Research Branch
Plant Research Institute
Queen's Printer (agent for FAO
publications)

HORTICULTURE

Nfld.:—Dept. of Mines, Agriculture
and Resources
P.E.I., Man.:—Depts. of Agriculture
N.S., N.B., Alta., B.C.:—Depts.
of Agriculture, Horticultural
Branches
Que.:—Dept. of Agriculture and
Colonization, Horticultural
Branch
Ont.:—Dept. of Agriculture and
Food
Sask.:—Dept. of Agriculture, Plant
Industry Branch

Dept. of National Health and Welfare
Dept. of Indian Affairs and Northern
Development
Northern Administration Branch
(Y.T. and N.W.T.)
Dept. of National Defence
Office of the Surgeon General
Dept. of Veterans Affairs (veterans
hospitals)
Queen's Printer (agent for WHO
publications)
Dominion Bureau of Statistics

**HOSPITALS
AND HOSPITAL
INSURANCE**

Nfld.:—Dept. of Health
P.E.I., Ont.:—Hospital Services
Commissions
N.S.:—Hospital Insurance Commis-
sion
N.B.:—Dept. of Health and Welfare
Que.:—Hospital Insurance Service
Man.:—Manitoba Hospital Com-
mission
Sask., Alta.:—Depts. of Public
Health
B.C.:—Dept. of Health Services and
Hospital Insurance

**HOUSE OF
COMMONS**
See "Parliament"

<u>Sources for Federal Data</u>	<u>Subject</u>	<u>Sources for Provincial Data</u>
Central Mortgage and Housing Corporation (National Housing Act financing; loans and subsidies for housing) Dept. of Indian Affairs and Northern Development Indian Affairs Branch Northern Administration Branch (Eskimo housing) Dept. of Veterans Affairs (home construction assistance for veterans) National Research Council Division of Building Research (construction materials, building codes and practices, soil and snow mechanics, housing standards) Dominion Bureau of Statistics	HOUSING	Nfld.:—Dept. of Municipal Affairs and Housing P.E.I.:—Prince Edward Island Housing Commission N.S.:—Nova Scotia Housing Commission N.B.:—Dept. of Finance Que.:—Dept. of Agriculture and Colonization, Quebec Farm Credit Bureau Ont.:—Ontario Housing Corporation Man.:—Dept. of Urban Development and Municipal Affairs, Housing and Urban Renewal Branch Sask.:—Dept. of Social Welfare, Housing Branch Alta.:—Dept. of Industry and Development, Commercial Branch B.C.:—Dept. of Finance, Housing Commissioner
Dept. of Manpower and Immigration Canada Immigration Division Dept. of National Health and Welfare Quarantine, Immigration Medical and Sick Mariners Division Dominion Bureau of Statistics	IMMIGRATION	P.E.I.:—Dept. of Industry and Natural Resources Que.:—Dept. of Provincial Secretary, Immigration Service Ont.:—Dept. of Economics and Development, Immigration Branch Man.:—Dept. of Industry and Commerce, Immigration Branch Sask.:—Dept. of Social Welfare Alta.:—Dept. of Labour B.C.:—British Columbia House, London, England and San Francisco, California
	INCOME TAX See "Taxation"	
Dept. of Consumer and Corporate Affairs Corporations Branch	INCORPORATION OF COMPANIES AND ASSOCIATIONS	Nfld.:—Dept. of Justice, Registry of Justice N.S., N.B., Ont.:—Depts. of Provincial Secretary
Dept. of Indian Affairs and Northern Development Indian Affairs Branch Dept. of National Health and Welfare (health and hospital services) National Museums of Canada	INDIANS	Nfld.:—Dept. of Public Welfare (Indians in Labrador) Dept. of Labrador Affairs Que.:—Dept. of Tourism, Game and Fish Ont.:—Dept. of Public Welfare Man.:—Dept. of Welfare, Community Development Branch Sask.:—Provincial Committee on Minority Groups Executive Council Alta.:—Dept. of Industry and Development, Community Development Branch B.C.:—Dept. of Labour, Provincial Advisory Committee on Indian Affairs
Dept. of Industry Office of the Design Adviser Dept. of Consumer and Corporate Affairs Patent and Copyright Office	INDUSTRIAL DESIGN	Man.:—Dept. of Industry and Commerce, Manitoba Design Institute

Sources for Federal Data	Subject	Sources for Provincial Data
<p>Dept. of Insurance (Canadian, British and foreign companies, Federal Public Service Insurance)</p> <p>Central Mortgage and Housing Corporation (insures loans made under National Housing Act)</p> <p>Dept. of Agriculture (crop insurance)</p> <p>Dept. of Labour</p> <p>Industrial Pensions and Annuities Branch</p> <p>Dept. of National Health and Welfare</p> <p>Canada Pension Plan</p> <p>Dept. of Trade and Commerce</p> <p>Export Credits Insurance Corporation</p> <p>Dept. of Veterans Affairs</p> <p>Veterans Welfare Services</p> <p>Dominion Bureau of Statistics (summary statistics of all types of insurance)</p>	<p>INSURANCE— LIFE, FIRE, ETC.</p> <p>For Unemployment Insurance see "Labour" and for Hospital Insurance "Hospitals and Hospital Insurance"</p>	<p>Nfld.:—Dept. of Provincial Affairs</p> <p>P.E.I., N.S., N.B., B.C.:—Superintendents of Insurance</p> <p>Que.:—Finance Dept., Insurance Branch</p> <p>Ont.:—Dept. of Financial and Commercial Affairs, Superintendent of Insurance</p> <p>Man.:—Superintendent of Insurance</p> <p>Manitoba Crop Insurance Corporation</p> <p>Sask.:—Superintendent of Insurance, Government Insurance Office</p> <p>Alta.:—Dept. of Provincial Secretary, Supervisor of Insurance</p>
<p>Dept. of Energy, Mines and Resources</p> <p>Mines Branch</p> <p>Mineral Resources Division</p> <p>Dept. of Industry</p> <p>Materials Branch</p> <p>Dept. of Trade and Commerce</p> <p>Economics Branch</p> <p>Industrial Materials Branch</p> <p>Dominion Bureau of Statistics</p>	<p>IRON AND STEEL</p>	<p>Nfld.:—Dept. of Mines, Agriculture and Resources</p> <p>N.S.:—Dept. of Mines Research Foundation</p> <p>N.B.:—Dept. of Lands and Mines</p> <p>Que.:—Dept. of Industry and Commerce, Bureau of Statistics</p> <p>Dept. of Natural Resources</p> <p>Ont.:—Dept. of Economics and Development, Trade and Industry Branch</p> <p>Man.:—Dept. of Mines and Natural Resources</p> <p>Dept. of Industry and Commerce</p> <p>Sask.:—Dept. of Mineral Resources</p> <p>Alta.:—Dept. of Mines and Minerals</p> <p>Dept. of Industry and Development</p> <p>Research Council of Alberta</p> <p>B.C.:—Dept. of Mines and Petroleum Resources</p> <p>Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics</p>
<p>Dept. of Justice</p> <p>Dept. of Indian Affairs and Northern Development (Y.T. and N.W.T.)</p> <p>Queen's Printer (agent for International Court of Justice publications)</p> <p>Dominion Bureau of Statistics</p>	<p>JUSTICE</p>	<p>All Provinces except Nfld. and Que.:—Depts. of Attorney General</p> <p>Nfld., Que.:—Depts. of Justice</p>
<p>Dept. of Labour</p> <p>Canada Labour Relations Board</p> <p>Conciliation and Arbitration Branch (conciliation of labour disputes)</p> <p>Economics and Research Branch</p> <p>Employee Representation Branch (certification of bargaining agents)</p> <p>Fair Employment Practices Branch (promotion of fair employment practices)</p> <p>International Labour Affairs Branch</p> <p>Labour-Management Consultation Branch (promotion of labour-management co-operation)</p> <p>Labour Standards Branch</p> <p>Legislation Branch</p> <p>Library Services Branch</p> <p>Public Relations and Information Services</p> <p>Women's Bureau</p>	<p>LABOUR, WAGES AND WORKING CONDITIONS</p>	<p>Nfld., P.E.I., N.S., N.B., Man., Sask., Alta.:—Depts. of Labour</p> <p>Que.:—Dept. of Labour</p> <p>Bureau of Statistics</p> <p>Economic Research Bureau</p>

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Indian Affairs and Northern Development (Y.T. and N.W.T.) Indian Affairs Branch Dept. of Manpower and Immigration Canada Manpower Division Canada Immigration Division Dept. of National Health and Welfare (occupational health) National Research Council Division of Administration and Personnel (recruitment and salary levels of scientific and technical personnel) Queen's Printer (agent for International Labour Office publications) Unemployment Insurance Commission Dominion Bureau of Statistics	LABOUR, WAGES AND WORKING CONDITIONS— <i>concluded</i>	Ont.:—Dept. of Labour Treasury Dept., Finance and Economics Division B.C.:—Dept. of Labour Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Energy, Mines and Resources Surveys and Mapping Branch Dept. of Agriculture Prairie Farm Rehabilitation Administration Dept. of Indian Affairs and Northern Development Northern Administration Branch (Y.T. and N.W.T.) Indian Affairs Branch Dept. of Manpower and Immigration Canada Immigration Division Dept. of Veterans Affairs Veterans Land Administration Public Archives (early data re settlement)	LANDS AND LAND SETTLEMENT	Nfld.:—Dept. of Mines, Agriculture and Resources P.E.I.:—Commissioner of Public Lands N.S.:—Dept. of Agriculture, Nova Scotia Farm Loan Board N.B.:—Dept. of Natural Resources Que.:—Dept. of Lands and Forests Dept. of Agriculture and Colonization Ont., Alta.:—Depts. of Lands and Forests Man.:—Dept. of Mines and Natural Resources, Lands Branch Sask.:—Dept. of Agriculture, Lands Branch Attorney General, Land Titles B.C.:—Dept. of Agriculture, Land Clearing Dept. of Lands, Forests, and Water Resources
Dept. of Solicitor General Royal Canadian Mounted Police (<i>Enforces Federal Statutes in all parts of Canada; in the provinces, exclusive of Quebec and Ontario, it carries out, under contract, enforcement of the Criminal Code and Provincial Statutes and polices a number of municipalities; is the only law-enforcement body in the Y.T. and N.W.T.</i>)	LAW ENFORCEMENT	All Provinces except Nfld. and Que.:—Depts. of Attorney General Nfld., Que.:—Depts. of Justice
Clerk of the Senate of Canada Clerk of the House of Commons Dept. of Indian Affairs and Northern Development (Y.T. and N.W.T.) Dept. of Justice Library of Parliament Privy Council Office Queen's Printer (distribution and sale of the Statutes of Canada and texts of federal legislation) For Acts administered by individual Federal Depts., see pp. 149-154 of this volume.	LEGISLATION <i>For</i> Statutory Orders and Regulations <i>see "Government"</i>	All Provinces except Nfld., P.E.I., Man. and B.C.:—Depts. of Attorney General Additional:—N.S., Ont. and Alta.:—Queen's Printer (distribution and sale of the Statutes and various Acts) Nfld.:—Dept. of Justice P.E.I., B.C.:—Depts. of Provincial Secretary Man.:—Legislative Council
	LIBRARIES <i>See "Bibliography"</i>	

Sources for Federal Data

Subject

Sources for Provincial Data

Chief Electoral Office (for local referendum under Canada Temperance Act)
Dept. of Indian Affairs and Northern Development
Northern Administration Branch (Y.T. and N.W.T.)
Dominion Bureau of Statistics

LIQUOR CONTROL

Nfld.:—Board of Liquor Control
P.E.I., Man.:—Liquor Control Commissions
N.S.:—Liquor Commission
Liquor Licence Board
N.B., Ont., Alta., B.C.:—Liquor Control Boards
Que.:—Liquor Board
Sask.:—Liquor Board, Liquor Licensing Commission

Dept. of Agriculture
Production and Marketing Branch
Livestock Division
Health of Animals Branch
Contagious Diseases Division
Meat Inspection Division
Animal Pathology Division
Research Branch
Animal Research Institute
Queen's Printer (agent for FAO publications)
National Film Board
Dominion Bureau of Statistics

LIVESTOCK

Nfld.:—Dept. of Mines, Agriculture and Resources
P.E.I., N.B., Alta., B.C.:—Depts. of Agriculture, Livestock Branches
N.S.:—Dept. of Agriculture, Animal Husbandry Branch
Que.:—Dept. of Agriculture and Colonization, Animal Products Branch
Dept. of Industry and Commerce, Bureau of Statistics
Ont.:—Dept. of Agriculture and Food, Livestock Branch
Man.:—Dept. of Agriculture, Livestock Branch
Sask.:—Dept. of Agriculture, Animal Industry Branch

Dept. of Industry
Information and Promotion Branch
Office of the Design Adviser
Office of the Industrial Policy Adviser
Bank of Canada
Industrial Development Bank
Dept. of Consumer and Corporate Affairs
Corporations Branch
Dept. of Defence Production (for defence items)
Dept. of Finance (Small Businesses Loans Act)
National Research Council
Canadian Patents and Development Limited (utilization of new scientific processes)
Technical Information Service (answering queries from industry on problems of technology and productivity)
National Film Board
Dominion Bureau of Statistics

MANUFACTURING

See also "Crown Corporations"

Nfld.:—Dept. of Economic Development
P.E.I.:—Dept. of Industry and Natural Resources
N.S.:—Dept. of Trade and Industry
N.B.:—Dept. of Finance and Industry
Que.:—Dept. of Industry and Commerce, Bureau of Statistics
Ont.:—Dept. of Economics and Development, Trade and Industry Branch
Man.:—Dept. of Industry and Commerce
Sask.:—Economic Advisory and Planning Board
Dept. of Industry and Commerce
Alta.:—Dept. of Industry and Development
Alberta Bureau of Statistics
B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics

Dept. of Energy, Mines and Resources
Surveys and Mapping Branch
Marine Sciences Branch
Geological Survey
Observatories Branch
Dept. of Agriculture (soil survey and economic survey maps)
Dept. of Fisheries
Information and Consumer Service (fisheries maps)
Dept. of Forestry and Rural Development
Information and Technical Services Division (forestry and rural development maps)
Dept. of Transport (meteorological maps)
National Capital Commission (tourist and planning maps)
National Research Council
Division of Building Research (Climatological Atlas)
Public Archives (maps relating to history and cartography)
Dominion Bureau of Statistics (economic and census maps)

MAPS AND CHARTS

Nfld.:—Dept. of Mines, Agriculture and Resources
P.E.I.:—Dept. of Public Works and Highways
N.S.:—Dept. of Mines Research Foundation
N.B.:—Dept. of Natural Resources
Que.:—Dept. of Lands and Forests
Dept. of Natural Resources
Dept. of Industry and Commerce, Economic Cartography
Dept. of Agriculture and Colonization
Ont.:—Dept. of Mines
Dept. of Lands and Forests
Dept. of Highways
Dept. of Tourism and Information
Man.:—Dept. of Mines and Natural Resources, Surveys Branch
Sask.:—Dept. of Natural Resources
Dept. of Industry and Commerce
Alta.:—Dept. of Lands and Forests
Alberta Travel Bureau
Dept. of Highways, Surveys Branch
B.C.:—Dept. of Lands, Forests, and Water Resources

Sources for Federal Data	Subject	Sources for Provincial Data
	MARRIAGES See "Vital Statistics"	
Dept. of Industry Information and Promotion Branch Dept. of Agriculture Economics Branch Dept. of Trade and Commerce Trade Services Branch Commodities Branch Dominion Bureau of Statistics	MERCHANDISING	Ont.:—Dept. of Economics and Development Man., Sask.:—Depts. of Industry and Commerce Alta.:—Dept. of Industry and Development B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Energy, Mines and Resources Mines Branch Mineral Resources Division Dept. of Industry Materials Branch Dept. of Trade and Commerce Economics Branch Industrial Materials Branch Dominion Bureau of Statistics (for production data)	METALS See also "Iron and Steel"	Nfld.:—Dept. of Mines, Agriculture and Resources N.S., Ont.:—Depts. of Mines N.B., Que.:—Depts. of Natural Resources Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Alta.:—Dept. of Mines and Minerals B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics Dept. of Mines and Petroleum Resources
Dept. of Energy, Mines and Resources Geological Survey of Canada Mines Branch Mineral Resources Division Dept. of Indian Affairs and Northern Development Northern Administration Branch (Y.T. and N.W.T.) Resource and Economic Development Group Dept. of Industry Materials Branch Dept. of Trade and Commerce Industrial Materials Branch Dominion Bureau of Statistics (for production data)	MINING AND MINERALS	Nfld.:—Dept. of Mines, Agriculture and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Ont.:—Depts. of Mines N.B., Que.:—Depts. of Natural Resources Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Alta.:—Dept. of Mines and Minerals B.C.:—Dept. of Mines and Petroleum Resources
National Film Board (Produces documentary films, newsreels and short subjects for theatrical, non-theatrical and television distribution; filmstrips and photographs for informational, educational and archival purposes; and other visual materials devoted to the interpretation of the Canadian scene. Maintains a large film preview library for the benefit of government and other official bodies.) Canadian Film Development Corporation (to foster and promote the development of a feature film industry in Canada) Canadian Radio-Television Commission (formerly CBC) (Produces 16 mm. films for broadcasting over its own networks and stations. Some of these are available for export sales.) Central Mortgage and Housing Corporation (library of films on housing and urban renewal) Dept. of Forestry and Rural Development Information and Technical Services Division (lending library of forestry training and resource films)	MOTION PICTURES	Nfld., P.E.I., N.B.:—Purchase films but do not produce them N.S., Que., Alta., B.C.:—Produce educational or informational films Ont.:—Dept. of Tourism and Information, Theatres Branch and Photography Branch (Films are available to the public from several other departments.) Man.:—Manitoba Government Information Services Sask.:—Dept. of Industry and Commerce Dept. of Education, Visual Education Branch Alta.:—Dept. of Industry and Development, Photographic Branch

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Labour Public Relations and Information Services (sponsors film lending library on labour matters operated by Canadian Film Institute) National Gallery of Canada (library of films on art) National Museums of Canada	<div>MOTION PICTURES— concluded</div>	B.C.:—Dept. of Recreation and Conservation <i>(All provinces have Motion Picture Censorship Boards. Details available from: Depts. of Education and Travel, Provincial Censorship Boards and National Film Board Regional Offices.)</i>
Dominion Bureau of Statistics Governments Division Dept. of Finance (municipal grants) Dept. of Indian Affairs and Northern Development (Y.T. and N.W.T.)	<div>MUNICIPAL AFFAIRS</div>	Nfld.:—Dept. of Municipal Affairs and Housing P.E.I., N.S., N.B., Que., Ont., Sask., Alta., B.C.:—Depts. of Municipal Affairs Man.:—Dept. of Urban Develop- ment and Municipal Affairs
Dept. of Secretary of State Canadian War Museum National Museums of Canada Museum of Human History Museum of Natural History Museum of Science and Tech- nology National Gallery of Canada (works of art) Laurier House, Ottawa (historical) National Historic Parks Museums Public Archives (historical) Queen's Printer (agent for UNESCO publications)	<div>MUSEUMS</div>	Nfld.:—Dept. of Provincial Affairs N.S.:—Nova Scotia Museum of Fine Arts, Public Archives of Nova Scotia, Provincial Museum of Nova Scotia, Halifax N.B.:—New Brunswick Museum, Saint John Que.:—The Archives, Musée de la Province de Québec, Quebec Commercial and Industrial Mu- seum of Montreal Dept. of Cultural Affairs Ont.:—Royal Ontario Museum, Art and Archaeology, Life Sciences and Earth Sciences Divisions Dept. of Public Records and Archives Man.:—Manitoba Museum, Winni- peg Sask.:—Provincial Museum, Regina Western Development Museum, Saskatoon Alta.:—Dept. of Provincial Sec- retary, Provincial Museum, Ed- monton B.C.:—Provincial Museum of Nat- ural History and Anthropology, Provincial Archives (including Helmcken House), Victoria Also provincial universities of Sask., Alta. and B.C.
Comptroller of the Treasury (government accounts) Dominion Bureau of Statistics	<div>NATIONAL ACCOUNTS</div>	
Dept. of Transport Marine Services (aids to marine navigation; secondary canals) Telecommunications Branch (radio aids to navigation) Information Services Canadian Transport Commission Dept. of Energy, Mines and Re- sources Canadian Hydrographic Service Dept. of Public Works Operations Directorate National Harbours Board National Research Council Radio and Electrical Engineering Division (applications of radar to navigation) Division of Mechanical Engineer- ing (model-testing basin and hydraulic models) St. Lawrence Seaway Authority (St. Lawrence-Great Lakes canals)	<div>NAVIGATION</div>	

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of National Health and Welfare Nutrition Division Dept. of Agriculture Consumer Service Dept. of Fisheries Information and Consumer Service Dept. of Industry Food Products Branch Queen's Printer (agent for FAO and WHO publications)	NUTRITION	Nfld., P.E.I., Que.:—Depts. of Health N.S., Sask.:—Depts. of Public Health, Nutrition Division N.B.:—Dept. of Health and Welfare Ont.:—Dept. of Health, Nutrition Service Dept. of Agriculture and Food, Home Economics Service Man.:—Dept. of Health, Health Education Branch Alta.:—Dept. of Agriculture Dept. of Public Health B.C.:—Dept. of Health Services and Hospital Insurance
Dept. of Energy, Mines and Resources Marine Sciences Branch Dept. of Fisheries Dept. of National Defence Defence Research Board Fisheries Research Board of Canada National Museums of Canada	OCEANOGRAPHY	Nfld.:—Dept. of Mines, Agriculture and Resources Que.:—Dept. of Tourism, Game and Fish Marine Biological Station of Grande Rivière Fisheries Training School B.C.:—Institute of Oceanography, University of British Columbia
Dept. of Energy, Mines and Resources Geological Survey of Canada Mineral Resources Division Mines Branch Dept. of Indian Affairs and Northern Development Northern Administration Branch (Y.T. and N.W.T.) Indian Affairs Branch (Indian reserves) Resource and Economic Development Group Dept. of Industry Chemicals Branch Dept. of Trade and Commerce Industrial Materials Branch National Energy Board Dominion Bureau of Statistics	OIL AND NATURAL GAS	Nfld.:—Dept. of Mines, Agriculture and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Dept. of Mines N.B.:—Dept. of Natural Resources Que.:—Electricity and Gas Board Ont.:—Dept. of Energy and Resources Management Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Saskatchewan Power Corporation Dept. of Industry and Commerce Alta.:—Dept. of Mines and Minerals, Oil and Gas Conservation Board, Calgary Alberta Bureau of Statistics B.C.:—Dept. of Mines and Petroleum Resources
Dept. of National Health and Welfare Dept. of Indian Affairs and Northern Development Northern Administration Branch (Y.T. and N.W.T.) Dept. of Veterans Affairs (veterans only)	OLD AGE ASSISTANCE See also "Veterans Affairs"	Nfld., N.S.:—Depts. of Public Welfare P.E.I.:—Dept. of Welfare N.B.:—Dept. of Health and Welfare, Old Age and Blind Assistance Board Que.:—Dept. of Family and Social Welfare, Social Allowances Commission Ont.:—Dept. of Social and Family Services, Family Benefits Branch Man.:—Dept. of Welfare, The Old Age Assistance and Blind Persons' Allowances Board Sask.:—Dept. of Welfare, Director of Public Assistance Alta.:—Dept. of Public Welfare, Pensions Board B.C.:—Dept. of Social Welfare, Division for the Aged
Dept. of Indian Affairs and Northern Development National and Historic Parks Branch Dept. of Forestry and Rural Development Information and Technical Services Division (land use projects under ARDA)	PARKS	Nfld.:—Dept. of Mines, Agriculture and Resources P.E.I.:—Dept. of Tourist Development N.S., Alta.:—Depts. of Lands and Forests N.B., Sask.:—Depts. of Natural Resources Que.:—Dept. of Tourism, Game and Fish

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Public Works Operations Directorate Planning Directorate National Capital Commission National Film Board	PARKS—concluded	Ont.:—Dept. of Lands and Forests, Parks Branch Dept. of Energy and Resources Management, Conservation Branch Man.:—Dept. of Mines and Natural Resources, Forestry Branch Dept. of Tourism and Recreation, Parks Branch B.C.:—Dept. of Recreation and Conservation
The Senate The House of Commons Library of Parliament Privy Council Office	PARLIAMENT	Nfld.:—Dept. of Provincial Affairs P.E.I., N.B., Sask., Alta., B.C.:— Legislative Assemblies N.S.:—House of Assembly Que.:—Legislative Council Legislative Assembly Ont.:—Legislative Assembly Clerk of the Legislative Assembly Man.:—Legislative Council
Dept. of External Affairs Passport Division	PASSPORTS	
Dept. of Consumer and Corporate Affairs Patent and Copyright Office Trade Marks Office Canadian Patents and Development Limited (licences available on patents from Government labora- tories, etc.) National Library (handles all copy- right books)	PATENTS, COPY- RIGHTS AND TRADE MARKS	
Dept. of National Health and Welfare Canada Pension Plan Canadian Pension Commission (pen- sions to or in respect of veterans) Dept. of Labour (private pension plans) Dept. of National Revenue Dominion Bureau of Statistics (private pension plan statistics)	PENSIONS	All Provinces except Que.:—Legis- lation governing private pension plans Que.:—Quebec Pension Plan
National Film Board Canadian Radio-Television Commis- sion (formerly CBC) Information Services (radio and TV program photos) Central Mortgage and Housing Cor- poration Dept. of Energy, Mines and Re- sources Public Relations and Information Services Mineral Economics Division National Air Photographic Library Dept. of Forestry and Rural Develop- ment Information and Technical Serv- ices Division Dept. of Indian Affairs and Northern Development Information Services Division Dept. of Trade and Commerce Canadian Government Travel Bu- reau National Capital Commission Information and Historical Divi- sion (related to the Development of the National Capital) National Museums of Canada Public Archives (historical)	PHOTOGRAPHIC MATERIAL See also "Motion Pictures" and "Tourist Trade"	Nfld.:—Dept. of Economic Develop- ment N.S.:—Dept. of Trade and Industry Man.:—Manitoba Government In- formation Services Sask.:—Dept. of Industry and Commerce Alta.:—Dept. of Industry and Develop- ment, Film and Photographic Branch B.C.:—Dept. of Recreation and Conservation, Photographic Branch (Photographs are available from many provincial government depart- ments in all provinces.)

Sources for Federal Data	Subject	Sources for Provincial Data
Dominion Bureau of Statistics (for all census and estimated population statistics) Dept. of Indian Affairs and Northern Development Northern Administration Branch (Eskimos) Indian Affairs Branch Public Archives (early census and settlement records)	POPULATION	Nfld.:—Dept. of Health P.E.I.:—Travel Bureau N.S.:—Dept. of Public Health, Vital Statistics Branch N.B.:—Dept. of Health, Vital Statistics Branch Que.:—Dept. of Health, Vital Statistics Branch Dept. of Industry and Commerce, Bureau of Statistics Ont.:—Treasury Dept., Finance and Economics Division Man.:—Dept. of Industry and Commerce Dept. of Municipal Affairs Office of the Provincial Treasurer Economic Research Branch Sask.:—Dept. of Public Health, Vital Statistics Branch Legislative Library Alta.:—Dept. of Industry and Development, Provincial Statistician B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Post Office Department Information and Public Relations (general postal information) Accounting Branch (money orders, savings bank, philatelic services, etc.) Postal Rates and Classification Branch (postage rates, etc.)	POSTAL SERVICE	
Dept. of Agriculture Production and Marketing Branch Poultry Division Health of Animals Branch Contagious Diseases Division Meat Inspection Division Animal Pathology Division Research Branch Animal Research Institute Dept. of Industry Food Products Branch Queen's Printer (agent for FAO publications) Dominion Bureau of Statistics	POULTRY	Nfld.:—Dept. of Mines, Agriculture and Resources P.E.I., N.S.:—Depts. of Agriculture N.B., Alta., B.C.:—Depts. of Agriculture, Poultry Branches Que.:—Dept. of Agriculture and Colonization, Animal Production Service Dept. of Industry and Commerce, Bureau of Statistics Ont.:—Ontario Agricultural College (Guelph), Poultry Division Man.:—Dept. of Agriculture, Extension Service Sask.:—Dept. of Agriculture, Animal Industry Branch
Dept. of Secretary of State Secretariat Branch	PRECEDENCE AND CEREMONIAL	Nfld.:—Dept. of Provincial Affairs P.E.I., N.S., N.B., Ont., B.C.:—Depts. of Provincial Secretary Que.:—Executive Council, Chief of Protocol Man., Alta.:—Depts. of Provincial Secretary, Clerk of the Executive Council
Dominion Bureau of Statistics Dept. of Agriculture Production and Marketing Branch Markets Information Agricultural Stabilization Board Fisheries Prices Support Board Queen's Printer (agent for GATT publications)	PRICES	Ont.:—Treasury Dept., Finance and Economics Division Man.:—Dept. of Industry and Commerce Sask.:—Economic Advisory and Planning Board B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics

Sources for Federal Data

Subject

Sources for Provincial Data

Dept. of Consumer and Corporate Affairs
Registration Branch
Public Archives (early records)

PUBLIC DOCUMENTS
(Commissions of Appointment, Proclamations, Land Grants, etc.)

Nfld.:—Dept. of Provincial Affairs
Dept. of Mines, Agriculture and Resources
P.E.I., N.S., N.B., Que., Ont., Man., Sask., Alta., B.C.:—Depts. of Provincial Secretary

Dept. of Energy, Mines and Resources
Energy Development Group
Dominion Bureau of Statistics

PUBLIC UTILITIES
See also
"Electric Power"

Nfld.:—Board of Public Utilities Commissioners
P.E.I., B.C.:—Public Utilities Commissions
N.S., N.B.:—Boards of Commissioners Public Utilities
Que.:—Public Service Board
Quebec Hydro-Electric Commission
Ont.:—Dept. of Energy and Resources Management
The Hydro-Electric Power Commission of Ontario
Ontario Telephone Service Commission
Ontario Water Resources Commission
Ontario Municipal Board
Man.:—Dept. of Public Utilities
Sask.:—Government Finance Office
Saskatchewan Government Telephones
Saskatchewan Power Corporation
Alta.:—Dept. of Municipal Affairs, Public Utilities Board

Dept. of Public Works
Operations Directorate
Information Services
Dept. of Labour
Labour Standards Branch (fair wages, hours of work, safety)
Public Relations and Information Services
Dept. of Transport
Marine and Air Services
St. Lawrence Seaway Authority

PUBLIC WORKS

All Provinces:—Depts. of Public Works
Additional:—Ont.:—The Hydro-Electric Power Commission of Ontario
Ontario Water Resources Commission

RAILWAYS

See
"Transportation"

Dept. of Indian Affairs and Northern Development
National and Historic Parks Branch
Northern Administration Branch (Y.T. and N.W.T.)
Dept. of Forestry and Rural Development
Information and Technical Services Division
Dept. of National Health and Welfare
National Gallery of Canada
National Film Board

RECREATION
See also "Health"

Nfld.:—Dept. of Provincial Affairs
Dept. of Mines, Agriculture and Resources
P.E.I., Que., Ont.:—Depts. of Education
N.S.:—Youth Commission
N.B.:—Dept. of Youth
Dept. of Natural Resources, Travel Bureau
Man.:—Dept. of Tourism and Recreation
Sask.:—Dept. of Industry and Commerce, Tourist Development Branch
Dept. of Education
Alta.:—Dept. of Provincial Secretary, Recreation and Cultural Development Branch
B.C.:—Dept. of Recreation and Conservation

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Veterans Affairs (veterans) Dept. of Indian Affairs and Northern Development Information Division (Indians) Northern Administration Branch (Eskimos) Dept. of Manpower and Immigration Vocational Rehabilitation Branch Dept. of National Health and Welfare Dept. of Solicitor General Canadian Penitentiary Service National Parole Board National Film Board	REHABILITATION (of persons)	Nfld.:—Dept. of Health, Provincial Co-ordinator of Rehabilitation P.E.I.:—Dept. of Welfare N.S.:—Dept. of Public Health, Provincial Rehabilitation Co-ordinator N.B.:—Dept. of Health and Welfare, Director and Co-ordinator of Rehabilitation Que.:—Dept. of Family and Social Welfare Dept. of Education, Service for the Vocational Rehabilitation of the Handicapped Dept. of Labour Ont.:—Dept. of Social and Family Services Dept. of Health, Rehabilitation Division Dept. of Reform Institutions Man.:—Dept. of Health, Provincial Director of Rehabilitation Services Sask.:—Dept. of Welfare, Provincial Co-ordinator of Rehabilitation Alta.:—Dept. of Public Welfare Provincial Co-ordinator of Rehabilitation B.C.:—Dept. of Health Services and Hospital Insurance, Rehabilitation Co-ordinator
Dept. of Energy, Mines and Resources Energy Development Group Mineral Resources Division Water Resources Branch Dept. of Fisheries Resource Development Service Dept. of Forestry and Rural Development Information and Technical Services Division Dept. of Indian Affairs and Northern Development Northern Administration Branch (minerals, oil, gas in Y.T. and N.W.T.) Resource and Economic Development Group Dept. of Industry Area Development Agency Fisheries Research Board of Canada Northern Canada Power Commission Queen's Printer (agency for OECD publications)	RESOURCE DEVELOPMENT	Nfld.:—Dept. of Economic Development Dept. of Mines, Agriculture and Resources Dept. of Community and Social Development P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Dept. of Trade and Industry N.B.:—Dept. of Finance and Industry Que.:—Depts. of Lands and Forests, Labour, Roads, Family and Social Welfare, Natural Resources, and Industry and Commerce Ont.:—Treasury Dept., Finance and Economics Division Dept. of Energy and Resources Management Dept. of Lands and Forests Ontario - St. Lawrence Development Commission Dept. of Municipal Affairs, Community Planning Branch Ontario Northland Transportation Commission, North Bay Man.:—Dept. of Mines and Natural Resources Dept. of Industry and Commerce Manitoba Development Authority Sask.:—Dept. of Industry and Commerce, Resource Development Branch Alta.:—Dept. of Industry and Development B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
National Research Council Laboratory Divisions (biosciences, building research, pure and applied chemistry, mechanical engineering, aeronautical research, pure and applied physics, radiation biology, radio and electrical engineering) Regional Laboratories at Saskatoon, Sask., and Halifax, N.S.	SCIENTIFIC RESEARCH	See also "Atomic Energy"

Sources for Federal Data

Science Secretariat, Privy Council Office
Atomic Energy of Canada Limited, Chalk River, Ont.
Canadian Patents and Development Limited (licences available on patents derived from government research, etc.)
Dept. of Agriculture
Research Branch (basic and applied research on all aspects of agriculture)
Dept. of Energy, Mines and Resources
Geological Survey of Canada
Mines Branch
Observatories Branch
Marine Sciences Branch
Inland Waters Branch
Dept. of Forestry and Rural Development
Information and Technical Services Division
Dept. of Indian Affairs and Northern Development
National and Historic Parks Branch
Northern Co-ordination and Research
Canadian Wildlife Service
Dept. of Industry
Industrial Research Adviser
Dept. of National Defence
Defence Research Board
Dept. of National Health and Welfare
Dept. of Transport (aviation, radio, meteorology, navigation)
Dept. of Veterans Affairs (medical research)
Fisheries Research Board of Canada
Medical Research Council (fellowships, associateships and grants-in-aid)
National Museums of Canada
National Gallery of Canada (conservation research laboratory)
Queen's Printer (agency for International Atomic Energy Agency publications)

Subject

SCIENTIFIC
RESEARCH—
concluded

SENATE
See "Parliament"

SOCIAL
SECURITY
See
"Family
Allowances"
"Blindness
Allowances"
"Old Age
Assistance"
"Disabled Persons
Allowances"
"Labour"
"Pensions"
"Unemployment"
"Veterans Affairs"
"Economic and
Social Research"

Sources for Provincial Data

Nfld.:—Dept. of Economic Development
P.E.I.:—Dept. of Industry and Natural Resources
N.S.:—Nova Scotia Research Foundation
N.B.:—Dept. of Finance and Industry
Que.:—Dept. of Agriculture and Colonization
Dept. of Natural Resources
Dept. of Roads
Ont.:—Ontario Research Foundation
Dept. of Agriculture and Food
Dept. of Lands and Forests
Alcoholism and Drug Addiction
Research Foundation of Ontario
The Hydro-Electric Power Commission of Ontario
Sheridan Park Research Community
Man.:—Various Depts. such as Health and Mines and Natural Resources
Manitoba Research Council
Sask.:—Saskatchewan Research Council
Alta.:—Alberta Research Council
B.C.:—Dept. of Industrial Development, Trade, and Commerce, B.C. Research Council

Sources for Federal DataSubjectSources for Provincial Data**SOCIAL WELFARE**

See "Welfare"

Dept. of Trade and Commerce
Standards Branch (for inquiries
on electricity and gas inspection,
weights and measures, precious
metals marking, commodity
standards and national trade
mark matters)
Canadian Standards Association
Central Mortgage and Housing
Corporation (building standards)
Dept. of Defence Production
Standards and Specifications
Branch
Dept. of Labour
Labour Standards Branch (fair
wages, hours of work, safety)
Public Relations and Information
Services
Dept. of National Defence
Dept. of Transport (standards in
radio frequencies, standards in
steamship inspection)
National Research Council
Applied Physics Division (funda-
mental physical and electrical
standards)

**STANDARDS
AND
SPECIFICATIONS**See also
"Food and
Drugs"

Ont.:—Dept. of Labour
Ontario Research Foundation
Ontario Housing Corporation
Man.:—Dept. of Labour

Dominion Bureau of Statistics
Central Mortgage and Housing
Corporation
Dept. of Labour
Economic and Research Branch
Public Relations and Information
Services
Dept. of National Health and Welfare
Research and Statistics Directorate
Queen's Printer (agent for United
Nations publications)

STATISTICS

Nfld.:—Dept. of Provincial Affairs
Dept. of Economic Development
N.S.:—Dept. of Trade and Industry
N.B.:—Dept. of Education
Que.:—Dept. of Industry and Com-
merce, Bureau of Statistics
Ont.:—Treasury Dept., Finance
and Economics Division
Man.:—Dept. of Industry and
Commerce, Business Research
Branch
Sask.:—Economic Development
Board
Alta.:—Dept. of Industry and De-
velopment, Bureau of Statistics
Dept. of Public Health, Vital
Statistics
B.C.:—Dept. of Industrial Develop-
ment, Trade, and Commerce,
Bureau of Economics and Statis-
tics

Dept. of National Revenue, Taxa-
tion (income tax and estate tax
statistics and information)
Customs and Excise Division (cus-
toms duty, excise duty, excise
tax and sales tax)
Dept. of Finance (taxation policy,
tariff policy, Budget papers and
statistics)

TAXATION

Nfld., Que.:—Depts. of Finance
P.E.I.:—Provincial Treasurer
N.S.:—Dept. of Finance and Eco-
nomics
N.B.:—Dept. of Provincial Secretary
Dept. of Finance and Industry
Ont.:—Treasury Dept.
Man.:—Office of the Provincial
Treasurer, Taxation Division
Sask.:—Provincial Treasury Dept.
Alta.:—Provincial Treasurer's Dept.
Dept. of Provincial Secretary
Dept. of Municipal Affairs
B.C.:—Dept. of Finance, Surveyor
of Taxes

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Energy, Mines and Resources Topographical Survey National Research Council Applied Physics Division (photogrammetric research)	TOPOGRAPHY	Nfld.:—Dept. of Mines, Agriculture and Resources N.S.:—Dept. of Mines Nova Scotia Research Foundation N.B., Sask.:—Depts. of Natural Resources Que.:—Dept. of Lands and Forests Dept. of Industry and Commerce, Drafting Division Dept. of Natural Resources Ont.:—Dept. of Lands and Forests, Lands and Surveys Branch Man.:—Dept. of Mines and Natural Resources, Surveys Branch Alta., B.C.:—Depts. of Lands and Forests
Dept. of Trade and Commerce Canadian Government Travel Bureau Canadian Government Exhibition Commission (displays) Dept. of Forestry and Rural Development Information and Technical Services Division Dept. of Indian Affairs and Northern Development Canadian Wildlife Service Northwest Territories Tourist Office National and Historic Parks Branch National Gallery of Canada National Film Board Dominion Bureau of Statistics	TOURIST TRADE	Nfld.:—Dept. of Economic Development, Tourist Development Division P.E.I.:—Dept. of Tourist Development N.S.:—Dept. of Trade and Industry, Travel Bureau N.B.:—Dept. of Natural Resources, Travel Bureau Que.:—Dept. of Tourism, Game and Fish Ont.:—Dept. of Tourism and Information Man.:—Dept. of Tourism and Recreation Sask.:—Dept. of Industry and Commerce, Tourist Development Branch Alta.:—Dept. of Industry and Development, Alberta Travel Bureau B.C.:—Dept. of Recreation and Conservation Dept. of Travel Industry
Dept. of Trade and Commerce Agriculture and Fisheries Branch Canadian Government Exhibition Commission Export Credits Insurance Corporation Industrial Materials Branch Manufacturing Industries and Engineering Branch Office of Commodity Trade Policy Office of Trade Relations Standards Branch (weights and measures) Trade Services Branch Dept. of Consumer and Corporate Affairs Corporations Branch Dept. of Finance Economic Affairs Division (tariff policy) Dept. of Forestry and Rural Development Information and Technical Services Division Dept. of Industry Information and Promotion Branch Queen's Printer (agent for OECG and GATT publications) National Film Board Dominion Bureau of Statistics	TRADE	For incorporation of companies under provincial law, address Provincial Secretaries except Nfld., where Dept. of Justice is the authority and B.C., where Attorney General's Department is the authority. P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Dept. of Trade and Industry N.B.:—Dept. of Finance and Industry Que.:—Dept. of Industry and Commerce Ont.:—Dept. of Economics and Development, Trade and Industry Branch Treasury Dept., Finance and Economics Division Man.:—Dept. of Industry and Commerce, Trade Development and Marketing, Manitoba Export Commission Sask.:—Dept. of Industry and Commerce, Area and Trade Development Alta.:—Dept. of Industry and Development B.C.:—Dept. of Industrial Development, Trade, and Commerce
Dept. of Manpower and Immigration Canada Manpower Centres Program Support Branch	TRAINING	

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of the Secretary of State Bureau for Translations National Research Council National Science Library (information <i>re</i> location of completed scientific translations in Canada, other countries of the Commonwealth and the United States)	TRANSLATIONS	N.B.:—Dept. of Provincial Secretary Que.:—Legislative Assembly Bureau for Translations and all departments of the provincial administration.
Dept. of Transport Information Services Air Canada Canadian National Railways Canadian Transport Commission (regulations <i>re</i> railways; highway crossings; rates of railways, express companies and certain inland water carriers; rates <i>re</i> communications, international bridges and tunnels; licences to certain inland carriers; commercial air services) Dept. of Indian Affairs and Northern Development Northern Administration Branch National and Historic Parks Branch (highways in National Parks) Dept. of Industry Mechanical Transport Branch Dept. of Labour Conciliation and Arbitration Branch Economics and Research Branch Public Relations and Information Services Dept. of Public Works Operations Directorate Dept. of Trade and Commerce Trade Services Branch National Harbours Board National Museums of Canada Northern Transportation Company Limited (Crown) Queen's Printer (agent for ICAO publications) St. Lawrence Seaway Authority National Film Board Dominion Bureau of Statistics	TRANSPORTATION	Nfld.:—Dept. of Highways P.E.I.:—Dept. of Public Works N.S.:—Dept. of Highways Board of Commissioners of Public Utilities N.B.:—Dept. of Public Works, Highways Branch Que.:—Dept. of Transportation and Communications Dept. of Roads Ont.:—Dept. of Transport Dept. of Highways Treasury Dept., Finance and Economics Division Ontario Northland Transportation Commission, North Bay Man.:—Dept. of Public Works, Highways Branch Dept. of Industry and Commerce, Transportation Research Branch Dept. of Public Utilities Dept. of Industry and Commerce Sask.:—Dept. of Highways and Transportation Saskatchewan Transportation Company Economic Development Board Alta.:—Dept. of Highways Highway Traffic Board Alberta Freight Bureau B.C.:—Dept. of Commercial Transport Dept. of Highways
Dept. of Indian Affairs and Northern Development Northern Administration Branch (Y.T. and N.W.T.) National and Historic Parks Branch Dominion Bureau of Statistics	TRAPPING See also "Fur Farming"	Nfld.:—Dept. of Mines, Agriculture and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Ont., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Natural Resources Que.:—Dept. of Tourism, Game and Fish Man.:—Dept. of Mines and Natural Resources, Wildlife Branch Sask.:—Dept. of Natural Resources, Fur Marketing Service B.C.:—Dept. of Recreation and Conservation
Dept. of Labour Economics and Research Branch Queen's Printer (agent for ILO publications) Unemployment Insurance Commission Dominion Bureau of Statistics	UNEMPLOYMENT	Nfld., N.S., Que., Sask., Alta.:—Depts. of Labour N.B.:—Office of the Economic Advisor Ont.:—Treasury Dept., Finance and Economics Division Dept. of Public Welfare Man.:—Dept. of Labour, Research Branch B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics Dept. of Labour

Sources for Federal Data

Subject

Sources for Provincial Data

Unemployment Insurance Commission
Dept. of Indian Affairs and Northern Development
Northern Administration Branch (Y.T. and N.W.T.)
Dept. of Manpower and Immigration
Canada Manpower Division
(municipal winter works incentive program, occupational training for adults, manpower mobility)
Dept. of National Health and Welfare

UNEMPLOYMENT
ASSISTANCE

Nfld., N.S., Alta.:—Depts. of Public Welfare
P.E.I., Man., Sask.:—Depts. of Welfare
N.B.:—Dept. of Health and Welfare
Que.:—Dept. of Family and Social Welfare
Ont.:—Dept. of Social and Family Services
B.C.:—Dept. of Social Welfare

Central Mortgage and Housing Corporation
National Capital Commission

URBAN
RENEWAL

Nfld.:—Dept. of Municipal Affairs and Housing
N.S., Que., Alta., B.C.:—Depts. of Municipal Affairs
Ont.:—Ontario Housing Corporation
Man.:—Dept. of Urban Development and Municipal Affairs, Housing and Urban Renewal Branch
Manitoba Housing Commission

Dept. of Veterans Affairs (general information, rehabilitation, welfare, allowances, training, treatment, land settlement, education of children of war dead, insurance, records of service, war graves and medals)
Canadian Pension Commission (the Pension Act and Civilian War Pensions and Allowances Act, Parts I to X)
Dept. of Finance (veterans business and professional loans)
Dept. of Indian Affairs and Northern Development
Indian Affairs Branch (Indian veterans)
Dept. of Manpower and Immigration (vocational training)
Dept. of National Health and Welfare
Prosthetic Services
War Veterans Allowance Board (the War Veterans Allowance Act and Civilian War Pensions and Allowances Act, Part XI)

VETERANS
AFFAIRS

P.E.I., Man.:—Depts. of Welfare
N.S.:—Dept. of Public Welfare
N.B.:—Dept. of Youth
Que.:—Dept. of Family and Social Welfare
Ont.:—Dept. of Social and Family Services, Soldiers Aid Commission
Sask.:—Dept. of Welfare, Rehabilitation Division
B.C.:—Dept. of Provincial Secretary

Dominion Bureau of Statistics
Dept. of Indian Affairs and Northern Development
Northern Administration Branch (Y.T. and N.W.T.)
Information Division (Indians)
Dept. of Labour
Economics and Research Branch (labour statistics)
Dept. of Manpower and Immigration
Canada Immigration Division
Public Archives (early census records)

VITAL
STATISTICS

Nfld., N.B., Que.:—Depts. of Health
P.E.I.:—Dept. of Health, Director of Vital Statistics
N.S.:—Dept. of Public Health, Registration Services
Ont.:—Dept. of Provincial Secretary and Citizenship, Office of the Registrar-General
Man.:—Dept. of Health, Vital Statistics Division
Sask.:—Dept. of Public Health, Vital Statistics Branch
Alta.:—Dept. of Public Health, Director of Vital Statistics
B.C.:—Dept. of Health Services and Hospital Insurance, Vital Statistics Division

Dept. of Energy, Mines and Resources
Inland Waters Branch
Policy and Planning Branch
Dept. of Agriculture
Prairie Farm Rehabilitation Administration

WATER
RESOURCES

Nfld.:—Dept. of Mines, Agriculture and Resources
P.E.I.:—Prince Edward Island Water Authority
N.S.:—Nova Scotia Water Authority
N.B.:—Dept. of Natural Resources
Que.:—Dept. of Natural Resources

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Fisheries Resource Development Service Dept. of Forestry and Rural Development Information and Technical Services Division National Film Board	WATER RESOURCES— concluded	Ont.: —Ontario Water Resources Commission Dept. of Lands and Forests Man.: —Dept. of Agriculture, Water Control Branch Sask.: —Saskatchewan Water Resources Commission Dept. of Agriculture Saskatchewan Research Council Alta.: —Dept. of Agriculture B.C.: —Dept. of Lands, Forests and Water Resources
Dept. of National Health and Welfare Dept. of Indian Affairs and Northern Development Indian Affairs Branch (Indians) Northern Administration Branch (Eskimos) National Advisory Committee on the Rehabilitation of Disabled Persons Unemployment Insurance Commission Yukon Territorial Council, Whitehorse National Film Board Dominion Bureau of Statistics	WELFARE For Welfare of Veterans see "Veterans Affairs"	Nfld., N.S., Alta.: —Depts. of Public Welfare P.E.I., Man., Sask.: —Depts. of Welfare N.B.: —Dept. of Health and Welfare Que.: —Dept. of Family and Social Welfare Ont.: —Dept. of Social and Family Services B.C.: —Dept. of Social Welfare
Dept. of Indian Affairs and Northern Development Canadian Wildlife Service Commissioner of Yukon Territory, Whitehorse Dept. of Fisheries Information and Consumer Service Dept. of Forestry and Rural Development Information and Technical Services Division National Museums of Canada National Film Board	WILDLIFE	Nfld.: —Dept. of Mines, Agriculture and Resources P.E.I.: —Dept. of Industry and Natural Resources N.S., Ont., Alta.: —Depts. of Lands and Forests N.B.: —Dept. of Natural Resources Que.: —Dept. of Tourism, Game and Fish Man.: —Dept. of Mines and Natural Resources, Wildlife Branch Sask.: —Dept. of Natural Resources, Wildlife Branch B.C.: —Dept. of Recreation and Conservation

PART II.—SPECIAL MATERIAL PUBLISHED IN FORMER EDITIONS OF THE CANADA YEAR BOOK

It is not possible to include in any single edition of the Year Book all articles and descriptive text of previous editions. Therefore the following list has been compiled as an index to such miscellaneous material and special articles as are not repeated in the present edition. This list links up the Year Book with its predecessors in respect of matters that have not been subject to wide change. Those Sections of Chapters, such as "Population", which are automatically revived when later census material is made available and to which adequate references are made in the text, are not listed unless they are in the nature of special contributions. The latest published article on each subject is shown, except when an earlier article includes material not repeated in the later one. When an article covers more than one subject it is listed under each appropriate heading.

The articles marked with an asterisk (*) are available in reprint form from the Information Division, Dominion Bureau of Statistics.

Subject and Article	Contributor	Edition	Page
Agriculture—			
Historical Background of Canadian Agriculture.....	G. S. H. BARTON.....	1939	187-190
The Major Soil Zones and Regions of Canada.....	P. C. STOBBE.....	1951	352-356
The Board of Grain Commissioners.....	W. J. MACLEOD.....	1960	957-958
The Canadian Wheat Board and its Role in Grain Marketing.....	C. B. DAVIDSON.....	1960	958-960
Changes in Canadian Agriculture as Reflected by the Census of 1961.....	—	1963-64	409-415
Agriculture in the Canadian Economy, 1964.....	—	1965	440-446
Contribution of the Canada Department of Agriculture to Modern Agricultural Science.....	—	1966	457-461
*Federal Assistance in Livestock Improvement.....	—	1967	453-457
Art, Literature and the Press—			
*The Democratic Functioning of the Press....	W. A. BUCHANAN.....	1945	744-748
Report of the Royal Commission on National Development in the Arts, Letters and Sciences.....	—	1952-53	342-345
A History of Canadian Journalism, 1752-(circa) 1900.....	W. H. KESTERTON.....	1957-58	920-934
A History of Canadian Journalism (circa) 1900-1958.....	W. H. KESTERTON.....	1959	883-902
Banking and Finance—			
The Bank of Canada and its Relation to the Financial System.....	—	1937	881-885
Historical Sketch of Currency and Banking..	—	1938	900-906
The Royal Canadian Mint.....	H. E. EWART.....	1940	888-892
Wartime Control under the Foreign Exchange Control Board.....	R. H. TARR.....	1941	833-835
Post-War Financial Policy.....	—	1942	830-833
Commercial Banking in Canada.....	J. DOUGLAS GIBSON.....	1954	1061-1064
		1961	1115-1120
Citizenship—			
Early Naturalization Procedure and Events Leading up to the Canadian Citizenship Act.....	—	1951	153-155
Climate and Meteorology—			
Factors which Control Canadian Weather...	SIR FREDERICK STUPART...	1925	36-40
Temperature and Precipitation of Northern Canada.....	A. J. CONNOR.....	1930	41-56
Droughts in Western Canada.....	A. J. CONNOR.....	1933	47-59
The Climate of Canada (textual material appears in the 1959 Year Book and the tabular data in the 1960 edition but the reprint includes both textual and tabular data).....	C. C. BOUGHNER and M. K. THOMAS.....	1959	23-51
		1960	31-77
*The Climate of the Canadian Arctic.....	H. A. THOMPSON.....	1967	55-74
Communications—			
*The Democratic Functioning of the Press....	W. A. BUCHANAN.....	1945	744-748
*History and Development of the Canadian Broadcasting Corporation.....	AUGUSTIN FRIGON.....	1947	737-740
A History of Canadian Journalism, 1752-(circa) 1900.....	W. H. KESTERTON.....	1957-58	920-934
A History of Canadian Journalism (circa) 1900-1958.....	W. H. KESTERTON.....	1959	883-902
*The Development of Telecommunications in Canada.....	M. E. CALLIN.....	1967	862-869

Subject and Article	Contributor	Edition	Page
Constitution and Government—			
Provincial and Local Government.....	—	1922-23	102-115
The Evolution of the Constitution of Canada down to Confederation.....	S. A. CUDMORE and E. H. COLEMAN.....	1942	34-40
The British North America Act, 1867.....	—	1942	40-59
Canada's Growth in External Status.....	F. H. SOWARD.....	1945	74-79
The Constitutional Development of New- foundland prior to Union with Canada, 1949	—	1950	85-92
The Terms of Union of Newfoundland with Canada, 1949.....	—	1951	56-57
Financial Administration of the Government of Canada.....	—	1956	101-107
*The Privy Council Office and Cabinet Secre- tariat in Relation to the Development of Cabinet Government.....	W. E. D. HALLIDAY.....	1956	62-70
*Amendment of the Canadian Constitution...	J. R. MALLORY.....	1961	51-57
Crime and Delinquency—			
A Historical Sketch of Criminal Law and Procedure.....	R. E. WATTS.....	1932	897-899
The Influence of the Royal Canadian Mounted Police in the Building of Canada.....	S. T. WOOD.....	1950	317-331
Education—			
Report of the Royal Commission on National Development in the Arts, Letters and Sciences.....	—	1952-53	342-345
Recent Developments in Public Technical and Vocational Education in Canada.....	PHILLIP COHEN.....	1963-64	737-743
Fauna and Flora—			
Faunas of Canada.....	P. A. TAVERNER.....	1922-23	32-36
Faunas of Canada.....	R. M. ANDERSON.....	1937	29-52
Migratory Bird Protection in Canada.....	—	1951	38-43
*The Barren-Ground Caribou.....	—	1954	33-36
Migratory Bird Legislation.....	—	1955	41-45
The Musk-ox.....	—	1957-58	28-30
Provincial Government Wildlife Conservation Measures.....	—	1963-64	46-52
*The Flora of Canada.....	HOMER J. SCOGGAN.....	1966	35-61
Fisheries—			
Groundfish Species in the Canadian Fisheries	T. H. TURNER.....	1957-58	591-595
The Fisheries Research Board.....	J. L. KASK.....	1959	584-588
Canada's Commercial Fishery Resources and Their Conservation.....	—	1960	625-630
The Fisheries Research Board of Canada....	—	1963-64	612-614
Forestry—			
Physiography, Geology and Climate as Affecting the Forests.....	—	1934-35	311-313
The Pulp and Paper Industry in Canada.....	—	1952-53	467-475
The Federal-Provincial Forestry Agreements	H. W. BEALL.....	1956	459-466
The Pulp and Paper Research Institute of Canada.....	RIELLE THOMSON.....	1957-58	489-491
Canadian Forest Products and Changing World Markets.....	J. T. B. KINGSTON.....	1965	511-517
Fur Trade—			
The Development of Marshlands in Relation to Fur Production and the Rehabilitation of Fur-Bearers.....	D. J. ALLAN.....	1943-44	267-269
The Fur Industry.....	W. M. RITCHIE.....	1961	618-622

Subject and Article	Contributor	Edition	Page
Fur Trade —concluded			
Provincial Government Wildlife Conservation Measures.....	—	1963-64	46-52
Geology —			
Geology in Relation to Agriculture.....	WYATT MALCOLM.....	1921	68-72
The Geological Survey of Canada.....	J. M. HARRISON.....	1960	13-19
*Geology and Economic Minerals of Canada..	W. D. MCCARTNEY.....	1967	19-32
Health and Welfare —			
Development of Public Health, Welfare and Social Security in Canada.....	G. F. DAVIDSON.....	1952-53	224-229
*Mental Health and Tuberculosis.....	B. R. BLISHEN and C. A. ROBERTS.....	1956	248-257
Hospital Services and Hospital Insurance in Canada.....	—	1960	281-290
Federal Food and Drug Legislation in Canada	C. A. MORRELL.....	1961	242-248
Social Welfare Expenditures in Canada.....	J. W. WILLARD.....	1962	217-222
History —			
*Canadian Chronology, 1497-1960.....	—	1951-60	...
Canadian Chronology, 1961-64.....	—	1962-65	...
(up-dated annually in subsequent editions)			
Insurance —			
Fire and Casualty Insurance.....	G. D. FINLAYSON.....	1942	842-846
Insurance in Canada during the Depression and War Periods.....	G. D. FINLAYSON.....	1947	1064-1074
Life Insurance.....	RICHARD HUMPHREYS.....	1963-64	1071-1077
Labour —			
Recent Developments in Public Technical and Vocational Education in Canada.....	PHILLIP COHEN.....	1963-64	737-743
*History of the Labour Movement in Canada	EUGENE FORSEY.....	1967	773-781
Manufactures —			
Changes in Canadian Manufacturing Production from Peace to War, 1939-44.....	—	1945	364-381
Canadian Metallurgical Development.....	JOHN CONVEY.....	1961	513-522
Manufacturing Production during the Period 1945-59.....	A. COHEN.....	1962	600-609
The Petrochemical Industry in Canada.....	G. E. MCCORMACK.....	1962	609-615
Secondary Manufacturing in Canada.....	W. L. POSTHUMUS.....	1963-64	637-643
Manufacturing and the Changing Industrial Structure of the Canadian Economy, 1946-65.....	—	1967	665-678
Mining —			
Mining—A Historical Sketch.....	—	1939	309-310
The Coal Deposits and Coal Resources of Canada.....	B. R. MACKEY.....	1946	337-347
Canadian Crude Petroleum Situation.....	G. S. HUME.....	1952-53	524-527
History of Pipeline Construction in Canada..	G. S. HUME.....	1954	540-544
Canadian Metallurgical Development.....	G. S. HUME.....	1954	861-869
*Geology and Economic Minerals of Canada..	JOHN CONVEY.....	1961	513-522
	W. D. MCCARTNEY.....	1967	19-32
Physiography and Related Sciences —			
Physical Geography of the Canadian Eastern Arctic.....	R. A. GIBSON.....	1945	12-19
Hydrographical Features.....	F. C. G. SMITH.....	1947	3-12
Physical Geography of the Canadian Western Arctic.....	R. A. GIBSON.....	1948-49	9-18
The Drainage Basins of Canada.....	—	1961	16-18
Economic Regions of Canada.....	N. L. NICHOLSON.....	1962	17-23

Subject and Article	Contributor	Edition	Page
Physiography and Related Sciences— concluded			
*Main Physical and Economic Features of the Provinces and Territories.....	—	1963-64	4-20
Geophysics.....	G. S. GARLAND.....	1963-64	57-60
Federal Government Surveying and Mapping	MARY J. GIROUX.....	1965	17-24
*Astronomy in Canada.....	IAN HALLIDAY.....	1965	47-55
Growth of Geographical Knowledge of Canada.....	TREVOR LLOYD.....	1967	1-6
*Geology and Economic Minerals of Canada..	W. D. MCCARTNEY.....	1967	19-32
Population—			
Occupational Trends in Canada, 1891-1931...	A. H. LENEVEU.....	1939	774-778
*Developments in Canadian Immigration.....	—	1957-58	154-176
Integration of Postwar Immigrants.....	—	1959	176-178
Use of the English and French Languages in Canada.....	A. H. LENEVEU.....	1965	180-184
Mobility of Canada's Population, 1956-1961..	(Miss) Y. KASAHARA.....	1966	179-187
Research—			
*The International Geophysical Year.....	D. C. ROSE.....	1957-58	35-38
The Fisheries Research Board.....	J. L. KASK.....	1959	584-588
Geophysics.....	G. S. GARLAND.....	1963-64	57-60
The Fisheries Research Board of Canada....	—	1963-64	612-614
Astronomy in Canada.....	IAN HALLIDAY.....	1965	47-55
A Selection of Canadian Achievements in Science and Technology, 1800-1964.....	JOHN R. KOHR.....	1965	398-401
Trade—			
*Canada's Participation in the Changing Pattern of World Trade, 1953-66.....	A. M. COLL.....	1967	953-966
Transportation—			
The Development of Aviation in Canada....	J. A. WILSON.....	1938	710-712
Pre-War Civil Aviation and the Defence Program.....	J. A. WILSON.....	1941	608-612
International Civil Aviation Organization and Canada's Participation Therein.....	C. S. BOOTH.....	1952-53	820-827
Canals of the St. Lawrence Waterway.....	—	1954	830-833
History of the Canadian National Railways.	—	1955	840-851
The St. Lawrence Seaway.....	—	1955	885-888
Traffic on the Great Lakes—St. Lawrence Seaway.....	—	1956	821-829
The St. Lawrence Seaway in Operation.....	S. JUDEK.....	1960	851-860
Revolution in Canadian Transportation.....	A. W. CURRIE.....	1962	753-758
Operational and Technological Changes in Rail Transport.....	—	1965	755-761
An Outline of the Development of Civil Air Transport in Canada.....	J. R. K. MAIN.....	1967	838-843

PART III.—REGISTER OF OFFICIAL APPOINTMENTS*

The following list includes official appointments for the period Feb. 1, 1967 to Mar. 21, 1968,† continuing the list published in the 1967 Year Book at pp. 1240-1246. Appointments to the Governor General's Staff, judicial appointments, appointments to advisory councils and appointments of limited or local importance are not included.

* Extracts from the *Canada Gazette*, with some additions. All academic and honorary degrees and military honours have been omitted.

† See also Appendix I.

Governor General.—1967. *Mar. 29*, Roland Michener: to be Governor General of Canada.

Queen's Privy Council for Canada.—1967. *Apr. 4*, Hon. Walter Lockhart Gordon: to be President. Pierre Elliott Trudeau, Outremont, Que.; and Joseph Jacques Jean Chrétien, Shawinigan, Que.: to be members. *Apr. 11*, Hon. Pauline Vanier, Montreal, Que.: to be a member. *Sept. 25*, Charles Ronald McKay Granger: to be a member. **1968.** *Feb. 9*, Bryce Stuart Mackasey: to be a member.

Lieutenant-Governors.—1968. *Feb. 1*, Wallace S. Bird, Fredericton, N.B.: to be Lieutenant-Governor of the Province of New Brunswick from Feb. 1, 1968.

Cabinet Ministers.—1967. *Apr. 4*, Hon. John Napier Turner: to be Registrar General of Canada. Hon. Pierre Elliott Trudeau, Outremont, Que.: to be Minister of Justice and Attorney General of Canada. Hon. Joseph Jacques Jean Chrétien, Shawinigan, Que.: to be a Member of the Administration. *Sept. 19*, Hon. Léo-Alphonse Joseph Cadieux: to be Minister of National Defence from Sept. 19, 1967. Hon. Paul Theodore Hellyer: to be Minister of Transport from Sept. 19, 1967. *Sept. 27*, Charles Ronald McKay Granger: to be a Member of the Administration. *Dec. 21*, Hon. John Napier Turner: to be Minister of Consumer and Corporate Affairs. **1968.** *Jan. 18*, Hon. Joseph Jacques Jean Chrétien: to be Minister of National Revenue from Jan. 18, 1968. *Feb. 9*, Bryce Stuart Mackasey: to be a Member of the Administration.

Senators.—1967. *Apr. 6*, Keith Laird, Windsor, Ont.: to be a Senator for the Province of Ontario. Andrew Ernest Thompson, Kendal, Ont.: to be a Senator for the Province of Ontario. Mary Elizabeth Kinnear, Port Colborne, Ont.: to be a Senator for the Province of Ontario. Hon. Maurice Lamontagne, Montreal, Que.: to be a Senator for the Province of Quebec. **1968.** *Jan. 18*, Herbert Orville Sparrow, North Battleford, Sask.: to be a Senator for the Province of Saskatchewan. Lazarus Phillips, Montreal, Que.: to be a Senator for the Province of Quebec. *Feb. 13*, Richard James Stanbury, Toronto, Ont.: to be a Senator for the Province of Ontario. *Mar. 15*, Donald Allan McLean, Black's Harbour, N.B.: to be a Senator for the Province of New Brunswick. Hervé J. Michaud, Buctouche, N.B.: to be a Senator for the Province of New Brunswick.

Supreme Court of Canada.—1967. *Aug. 9*, Hon. John Robert Cartwright, a Puisne Judge of the Supreme Court of Canada: to be Chief Justice of Canada from Sept. 1, 1967, *vice* Hon. Robert Taschereau, resigned. *Oct. 6*, Louis-Philippe Pigeon, Que.: to be a Puisne Judge.

Parliamentary Secretaries.—1967. *Apr. 20*, Ovide Laflamme: to be Parliamentary Secretary to the Registrar General. Gérard Pelletier: to be Parliamentary Secretary to the Secretary of State for External Affairs.

Deputy Ministers.—1967. *Feb. 9*, D. S. Maxwell, Ottawa, Ont.: to be Deputy Minister of Justice from Mar. 1, 1967. *July 18*, Joseph-Louis-Eugène Couillard: to be Deputy Minister of Forestry and Rural Development from Sept. 1, 1967. J. F. Grandy: to be Deputy Registrar General of Canada from Sept. 15, 1967. *Dec. 21*, J. F. Grandy: to be Deputy Minister of Consumer and Corporate Affairs. **1968.** *Jan. 30*, John A. MacDonald: to be Deputy Minister of Indian Affairs and Northern Development from Mar. 1, 1968. Ernest A. Côté: to be Deputy Minister of Veterans Affairs from Mar. 1, 1968.

Diplomatic Appointments.—1967. The following diplomatic appointments were announced during the year. A. D. P. Heeney: to be Chairman of the Canadian Section of the Permanent Joint Board on Defence, *vice* L. D. Wilgress. Paul-André Beaulieu: to be Associate Permanent Representative and Ambassador for Canada to the United Nations,

New York. O. W. Dier: to be Canadian Commissioner to the International Commission for Supervision and Control in Viet-Nam. Max H. Wershof: to be Canadian Ambassador to Denmark. Klaus Goldschlag: to be Canadian Ambassador to Turkey. John Harrison Cleveland: to be Canadian Ambassador to Colombia and concurrently to Ecuador. Hubert Frederick Brookes-Hill Feaver: to be Canadian Ambassador to Greece. Saul Forbes Rae: to be Canadian Ambassador to Mexico and concurrently to Guatemala. Jean-Louis Delisle: to be Permanent Canadian Representative and Ambassador to the Offices of the United Nations in Geneva. John Timmerman: to be High Commissioner for Canada in Ceylon. Paul-André Beaulieu: to be Deputy Permanent Representative and Ambassador for Canada to the United Nations in New York. Charles Stewart Almon Ritchie: to be High Commissioner for Canada in Britain. Ross Campbell: to be Permanent Canadian Representative and Ambassador to the North Atlantic Council, Paris. Thomas Paul Malone: to be High Commissioner for Canada in Nigeria. Christopher Campbell Eberts: to be Canadian Ambassador to Iran. Christian Hardy: to be Canadian Ambassador to Lebanon. Bruce McGillivray Williams: to be Canadian Ambassador to Yugoslavia. Joseph-Charles-Léonard-Yvon Beaulne: to be Canadian Ambassador to Brazil. Bruce McGillivray Williams: to be Canadian Ambassador to Bulgaria and to Romania. John Alpine Dougan: to be High Commissioner for Canada in Guyana. John Arnold Irwin: to be High Commissioner for Canada in Tanzania. John Gaylard Hadwen: to be High Commissioner for Canada in Malaysia. James George: to be High Commissioner for Canada in India. Joseph Jean Martial Côté: to be Canadian Ambassador to Guinea. John Clemence Gordon Brown: to be Canadian Ambassador to the Republic of the Congo and to Rwanda. Michel Gauvin: to be Canadian Ambassador to Malagasy. Charles James Woodsworth: to be High Commissioner for Canada in Lesotho. Thomas Carter: to be Canadian Ambassador to the United Arab Republic. Joseph Elmo Thibault, Canadian Ambassador to Cameroun: to be concurrently Canadian Ambassador to the Central African Republic. Christian Hardy: to be Canadian Ambassador to Syria and Jordan, and to Lebanon. John Gaylard Hadwen: to be Canadian Ambassador to Burma. James George: to be Canadian Ambassador to Nepal. John Gaylard Hadwen: to be High Commissioner for Canada in Singapore. G. H. Blouin: to be Minister at the Canadian Embassy, Washington. Thomas Paul Malone: to be Canadian Ambassador to Dahomey and to Niger. James Cleland Britton: to be Canadian Ambassador to Thailand. Thomas Paul Malone: to be High Commissioner for Canada in Sierra Leone. 1968. John Arnold Irwin: to be High Commissioner for Canada to Zambia. Pamela Ann McDougall: to be Canadian Ambassador to Poland. Thomas Le Mesurier Carter: to be Canadian Ambassador to the United Arab Republic and to the Sudan. Joseph Elmo Thibault: to be Canadian Ambassador to the Cameroun with concurrent accreditation to the Central African Republic, Chad and Gabon. Christopher Campbell Eberts: to be Canadian Ambassador to Iraq and Kuwait.

Senate and House of Commons Officers.—1967. *July 18*, Alistair Fraser: to be Clerk of the House of Commons from Aug. 6, 1967. 1968. *Jan. 23*, Robert Fortier, Hull, Que.: to be Clerk of the Senate and also to be Clerk of the Parliaments from Feb. 1, 1968, *vice* J. F. MacNeill.

Agricultural Stabilization Board.—1967. *Aug. 30*, W. E. Jarvis, Assistant Deputy Minister, Production and Marketing Branch, Department of Agriculture: to be a member, *vice* S. C. Hudson.

Air Canada.—1967. *Oct. 5*, James Gordon Simpson, Halifax, N.S.: to be again a Director until Sept. 30, 1970.

Atlantic Development Board.—1968. *Feb. 15*, Harry Hyman Smofsky, Bridgetown, N.S.; Maurice John Quinlan, St. John's, Nfld.; and Michael Saunders Schurman, Summerside, P.E.I.: to be members for three years.

Atomic Energy Control Board.—1967. *Mar. 16*, Henri Gaudefroy, Director of French Programmes, External Aid Office: to be a member for a further term ending *Mar. 31, 1970*. **1968.** *Feb. 8*, W. M. Gilchrist, President, Eldorado Mining and Refining Limited; and J. L. Gray, President, Atomic Energy of Canada Limited: to be again members for three years from *Apr. 1, 1968*.

Bank of Canada.—1967. *Mar. 14*, W. A. Mackintosh, A. J. MacIntosh, A. I. Barrow and L. Patrick: to be again Directors for three years. **1968.** *Mar. 21*, William F. Ryan, Fredericton, N.B.; and Alec H. Walton, Vancouver, B.C.: to be again Directors for three years from *Mar. 1, 1968*. D. F. Matheson, Yorkton, Sask.: to be a Director for three years from *Mar. 1, 1968*.

Board of Broadcast Governors.—1967. *June 15*, Ian Stott, Sydney, N.S.: to be a part-time member for five years. *Oct. 26*, Claude Gagnon, Quebec, Que.: to be again a part-time member for five years from *Oct. 18, 1967*. **1968.** *Mar. 14*, Pierre Juneau, Ottawa, Ont.: to be Chairman from *Mar. 18, 1968*.

Canada Council.—1967. *May 30*, Kathleen Richardson, Winnipeg, Man.: and Douglas V. LePan, Toronto, Ont.: to be members for three years. Mlle Andrée Desautels, Quebec, Que.: to be a member for three years, *vice* Mme Annette LaSalle-Leduc. *Nov. 30*, Napoléon LeBlanc, Quebec, Que.: to be again a member for three years from *Nov. 11, 1967*.

Canada Deposit Insurance Corporation.—1967. *May 12*, Antonio Rainville, Montreal, Que.: to be a member and Chairman of the Board of Directors for five years from *May 12, 1967*. *May 16*, R. B. Bryce, Deputy Minister of Finance; L. Rasminsky, Governor of the Bank of Canada; W. E. Scott, Inspector-General of Banks; and R. Humphrys, Superintendent of Insurance: to be Directors.

Canadian Broadcasting Corporation.—1967. *Dec. 15*, Edmond Boyd Osler, Winnipeg, Man.; Stephanie Potoski, Yorkton, Sask.; and André Raynaud, Montreal, Que.: to be again Directors. **1968.** *Jan. 18*, John G. Prentice, Vancouver, B.C.: to be again a Director for three years from *Jan. 15, 1968*. George Forrester Davidson: to be President for seven years from *Feb. 1, 1968*. Laurent-Augustin Picard: to be Vice-President for seven years from *Feb. 1, 1968*. *Mar. 19*, Mrs. Saul Hayes, Montreal, Que.; Yves Ménard, Montreal, Que.; Gordon Denning, St. Thomas, Ont.; Mrs. Olga Riisna, Toronto, Ont.; R. B. Wilson, Victoria, B.C.: to be Directors for five years from *Apr. 1, 1968*. A. F. Mercier, Quebec, Que.; Jean-Claude Delorme, Montreal, Que.; Michael Lypka, Hamilton, Ont.; Mrs. Una McLean Evans, Edmonton, Alta.; and James Sharp Hinds, Sudbury, Ont.: to be Directors for four years from *Apr. 1, 1968*. Irving Pink, Yarmouth, N.S.; Roland Pinsonnault, Gravelbourg, Sask.; and L. L. McCowan, Hay River, N.W.T.: to be Directors for three years from *Apr. 1, 1968*. *Mar. 21*, Mme Denise Lacroix, Trois-Rivières, Que.: to be a Director for three years from *Apr. 1, 1968*.

Canadian Commercial Corporation.—1967. *May 12*, Jack Stewart Glassford, Assistant Deputy Minister (Purchasing), Department of Defence Production; and Charles Stuart Stevenson, Acting Director, Legal Branch, Department of Defence Production: to be Directors, *vice* Hugh Taylor Aiken and Alan Goldworth Bland, resigned.

Canadian Corporation for the 1967 World Exhibition.—1967. *Dec. 21*, Nathan Steinberg: to be a Director.

Canadian Film Development Corporation.—1968. *Feb. 29*, Georges-Émile Lapalme, Montreal, Que.; Royce Frith, Ottawa, Ont.; and George Elliott, Toronto, Ont.: to be members for five years, Mr. Lapalme to be Chairman. Mme Michelle Favreau, Montreal, Que.; George R. Gardiner, Toronto, Ont.; and Arthur Phillips, Vancouver, B.C.: to be members for three years. **1968.** *Mar. 12*, George G. R. Harris, Toronto, Ont.: to be a member for three years from *Feb. 29, 1968*.

Canadian Livestock Feed Board.—1967. *Apr. 6*, Roger Perreault, Montreal, Que.: to be a member and Chairman; Charles William Huffman, Harrow, Ont.: to be a member and Vice-Chairman; and Willard D. Dernier, Moncton, N.B.: to be a member.

Canadian National Railway Company.—1967. *Sept. 18*, Renault St. Laurent, Quebec, Que.; Clifford Curtis, Kingston, Ont.; and Norman P. Dryden, Moncton, N.B.: to be again Directors until Sept. 30, 1970.

Canadian Overseas Telecommunication Corporation.—1967. *Mar. 23*, Winfield S. Pipes, Vancouver, B.C.: to be a Director for three years. *Nov. 7*, Elmer Bragg, Collingwood, N.S.: to be a Director for three years.

Canadian Pension Commission.—1967. *Feb. 14*, John Lyndon Thompson: to be again an *ad hoc* member for one year from Apr. 1, 1967. *May 23*, James Malcolm Cameron: to be an *ad hoc* member for one year from July 1, 1967. *Aug. 23*, Lawrence Wilmott Brown: to be again an *ad hoc* member for one year from Oct. 3, 1967. *Sept. 28*, Ulric Blier: to be *ad hoc* Commissioner for one year from Dec. 1, 1967. Eustace Morin, Quebec, Que.: to be a Commissioner, *vice* Ulric Blier from Dec. 1, 1967 to Apr. 29, 1976. *Nov. 30*, Joseph-Gontran Bisson: to be again an *ad hoc* member for one year from Jan. 15, 1968. *1968. Feb. 29*, John Lyndon Thompson: to be again an *ad hoc* Commissioner for one year from Apr. 1, 1968. James Malcolm Cameron: to be a Commissioner for ten years from Apr. 19, 1968, *vice* Stephen G. Mooney.

Canadian Radio-Television Commission.—1968. *Mar. 14*, Harry J. Boyle, Toronto, Ont.: to be a full-time member for seven years from Apr. 1, 1968, and to be Vice-Chairman. Mrs. Pat Pearce, Montreal, Que.; Harold Dornan, Ottawa, Ont.; and Réal Therrien, Quebec, Que.: to be full-time members for seven years from Apr. 1, 1968. Armand H. Cormier, Moncton, N.B.; Helen James, Toronto, Ont.; and John Shanski, Winnipeg, Man.: to be part-time members for five years from Apr. 1, 1968. Gordon Thomas, St. Anthony, Nfld.; Gilles Marcotte, Montreal, Que.; Northrop Frye, Toronto, Ont.; and Mrs. Gertrude Laing, Calgary, Alta.: to be part-time members for four years from Apr. 1, 1968. Gordon Hughes, Windsor, N.S.; Colomb Cliche, Quebec, Que.; and George McKeen, Vancouver, B.C.: to be part-time members for three years from Apr. 1, 1968.

Canadian Transport Commission.—1967. *June 26*, Pierre Taschereau, Montreal, Que.: to be a member for ten years from July 1, 1967, and to be a Vice-President. *Sept. 12*, Hon. John Whitney Pickersgill: to be a member and President from Sept. 19, 1967 to June 23, 1975. *Sept. 18*, The present members of the Board of Transport Commissioners, the Air Transport Board and the Canadian Maritime Commission: to be Commissioners. John A. D. Magee, Ottawa, Ont.: to be a member for ten years from Jan. 1, 1968. David H. Jones, Winnipeg, Man.: to be a member for ten years from Oct. 16, 1967. Laval Fortier, Ottawa, Ont.: to be a member from Oct. 16, 1967 until Apr. 18, 1974. Alan Pengelly Campbell, Vancouver, B.C.: to be a member for ten years from Oct. 1, 1967. *1968. Jan. 10*, Raymond Robin Cope, Ottawa, Ont.: to be a member for ten years from Feb. 15, 1968.

Cape Breton Development Corporation.—1967. *Sept. 12*, Robinson Ord, Montreal, Que.: to be President for seven years from Oct. 1, 1967. *Oct. 18*, R. Grant, Port Hawkesbury, N.S.; O. Hartigan, Sydney Mines, N.S.; M. A. Leishman, Toronto, Ont.; and R. B. Cameron, Boulderwood, Halifax County, N.S.: to be Directors for five years. *Dec. 12*, Douglas Henderson Fullerton, Ottawa, Ont.: to be Chairman for three years from Dec. 15, 1967. Jean-Jacques Gagnon, Montreal, Que.: to be a Director for five years from Dec. 15, 1967.

Central Mortgage and Housing Corporation.—1967. *Feb. 16*, Nikola Zunic, St. Boniface, Man.: to be a Director for three years from Apr. 10, 1967.

Chief Electoral Office.—1968. *Feb. 13*, Walter G. Nash, Ottawa, Ont.: to be Assistant Chief Electoral Officer.

Company of Young Canadians.—1967. *June 13*, Roger Tessier, Montreal, Que.; Léo Dorais, Montreal, Que.; and Joseph W. Kanuka, Regina, Sask.: to be members of the Provisional Council. **1968.** *Mar. 19*, Dal. Brodhead, Alert Bay, B.C.; Stan Daniels, Edmonton, Alta.; Robert Davis, Hillsburg, Ont.; Maurice Cloutier, Montreal, Que.; and Paul-André Baril, Montreal, Que.: to be members of the Provisional Council.

Crown Assets Disposal Corporation.—1967. *July 18*, Jean Miquelon: to be a Director for three years from Sept. 15, 1967.

Dominion Council of Health.—1967. *Oct. 3*, Nicholas A. Mancini, Hamilton, Ont.: to be a member for three years.

Economic Council of Canada.—1967. *Aug. 2*, Arthur J. R. Smith, a Director: to be Chairman for seven years from Sept. 1, 1967. **1968.** *Jan. 23*, David L. McQueen: to be a Director for seven years. *Feb. 2*, W. J. Bennett, Montreal, Que.; Robert M. Fowler, Montreal, Que.; David L. Kirk, Ottawa, Ont.; Ian M. MacKeigan, Halifax, N.S.; Maxwell W. Mackenzie, Montreal, Que.; and William Mahoney, Toronto, Ont.: to be again members for three years. Charles Perrault, St. Hyacinthe, Que.; and Gabriel Saab, Montreal, Que.: to be members for three years.

Export Credits Insurance Corporation.—1968. *Jan. 18*, A. G. Kniewasser, Assistant Deputy Minister, Department of Trade and Commerce, Ottawa, Ont.: to be a Director, *vice* Denis Harvey.

Farm Credit Corporation.—1967. *May 23*, William Esmond Jarvis, Assistant Deputy Minister, Canada Department of Agriculture: to be a member for one year, *vice* Stanislas J. Chagnon, Associate Deputy Minister, Canada Department of Agriculture. André Saumier, Assistant Deputy Minister, Department of Forestry and Rural Development: to be a member for one year, *vice* Alexander T. Davidson, Assistant Deputy Minister, Department of Energy, Mines and Resources.

Great Lakes Fishery Commission.—1967. *Oct. 10*, Charles Henry Douglas Clarke, Toronto, Ont.: to be a Commissioner for Canada for two years. Arthur Owen Blackhurst, Port Dover, Ont.: to be a Commissioner for Canada for two years from Dec. 1, 1967. Edward William BurrIDGE, Ottawa, Ont.: to be a Commissioner for Canada.

Historic Sites and Monuments Board of Canada.—1967. *June 6*, E. S. Russenholt, Headingley, Man.: to be a member until June 30, 1970. *Aug. 9*, Allan R. Turner, Regina, Sask.: to be a member until June 30, 1972. *Sept. 19*, Leslie Harris, St. John's, Nfld.: to be a member until Sept. 30, 1970.

Immigration Appeal Board.—1967. *July 12*, Janet Vivian Scott: to be a member and Chairman. *Sept. 6*, John Colin Campbell and Jean-Paul Geoffroy: to be members and Vice-Chairmen. Frank Glogowsky, Anton Bernard Wezelak and Ugo Benedetti: to be members. *Sept. 18*, Gérard Légaré: to be a member.

Inter-American Tropical Tuna Commission.—1968. *Jan. 18*, A. W. H. Needler, Deputy Minister of Fisheries, Ottawa, Ont.; and E. B. Young, Associate Director, International Fisheries Service, Department of Fisheries, Ottawa, Ont.: to be Commissioners from Apr. 1, 1968. Emerson Gennis, Toronto, Ont.: to be a Commissioner from Apr. 1, 1968 until Mar. 31, 1970.

International Commission for the Northwest Atlantic Fisheries.—1967. *Apr. 11*, H. Douglas Pyke, Lunenburg, N.S.: to be again a Commissioner for two years from May 28, 1967.

International Joint Commission.—1968. *Feb. 1*, René Dupuis: to be again a Commissioner from Feb. 23, 1968 to May 4, 1969.

International North Pacific Fisheries Commission.—1967. *Sept. 6*, James Cameron, Madeira Park, B.C.; and Carl Giske, Prince Rupert, B.C.: to be again members for two years. *Sept. 18*, S. V. Ozere, Assistant Deputy Minister of Fisheries: to be a member, *vice* A. W. H. Needler.

International Pacific Halibut Commission.—1967. *Sept. 28*, Martin K. Erikson, Prince Rupert, B.C.: to be again a member until Oct. 31, 1969.

National Arts Centre.—1968. *Feb. 8*, Mrs. Esther Genser, Winnipeg, Man.: to be a member of the Board of Trustees until Nov. 30, 1968, *vice* David H. Jones, resigned.

National Battlefields Commission.—1967. *June 1*, Roger Lemelin, Quebec, Que.; and Mark Donohue, Quebec, Que.: to be Commissioners, *vice* Joseph-Thomas-Arthur Maheux and Mostyn Lewis, resigned. **1968.** *Feb. 29*, Napoléon Côté, Quebec, Que.: to be a Commissioner, *vice* Raymond Garneau, deceased.

National Capital Commission.—1967. *Feb. 16*, Alfred John Frost, a member: to be Vice-Chairman until Apr. 28, 1969. J. M. Bissonnette, Quebec, Que.: to be again a member for four years. Jean-Claude La Haye, Montreal, Que.; P. J. Moran, Regina, Sask.; Clifford Murchison, Ottawa, Ont.; and D. Wallace Stewart, Renfrew, Ont.: to be members for four years. *Mar. 14*, Mrs. Walter Tucker, Grand Falls, Nfld.: to be a member for four years. *July 18*, Gérard Moreault, Lucerne, Que.: to be a member for four years. **1968.** *Jan. 23*, D'Arcy Audet, Hull, Que.; and Mrs. James P. Norrie, Truro, N.S.: to be again members for four years from Feb. 6, 1968. Jean-Claude La Haye: to be a member and Vice-Chairman until Feb. 16, 1971. Alfred John Frost: to be a member and Chairman until Apr. 28, 1969. *Feb. 29*, Thomas Howarth, Toronto, Ont.: to be a member for four years.

National Energy Board.—1967. *May 12*, Maurice Royer: to be again a member until Mar. 2, 1972. **1968.** *Mar. 21*, Robert D. Howland: to be Chairman until Aug. 15, 1973, *vice* I. N. McKinnon, from June 30, 1968.

National Film Board.—1967. *May 12*, Hugh Archibald McPherson: to be Government Film Commissioner and President of the National Film Board of Canada, *vice* Guy Roberge. *June 8*, Wilfred R. Jack, Hatzic, B.C.: to be again a member for three years.

National Gallery of Canada.—1967. *June 15*, Guy Viau, Quebec, Que.: to be Deputy-Director from Aug. 1, 1967. *Nov. 7*, Amiot Jolicoeur, Ste. Foy, Que.: to be a member of the Board of Trustees, *vice* Isidore Pollack, resigned.

National Museums of Canada.—1968. *Feb. 29*, Phyllis George, Moncton, N.B.; Amiot Jolicoeur, Ste. Foy, Que.; David Spurgeon, Toronto, Ont.; and George W. P. Heffelfinger, Winnipeg, Man.: to be members of the Board of Trustees for four years. Nina Cohen, Glace Bay, N.S.; Allan Bronfman, Montreal, Que.; and G. S. Vickers, Toronto, Ont.: to be members of the Board of Trustees for three years. Mme C. Marcoux-Baillargeon, Montreal, Que.; J. Tuzo Wilson, Toronto, Ont.; and Kiyoshi Izumi, Regina, Sask.: to be members of the Board of Trustees for two years. *Feb. 29*, Charles J. Mackenzie, Ottawa, Ont.: to be Secretary General and designated as a Deputy Head. Jean Ostiguy, Montreal, Que.: to be Chairman, and J. R. Longstaffe, Vancouver, B.C.: to be Vice-Chairman of the Board of Trustees for five years from the date of the coming into force of the Act.

National Research Council.—1967. *Mar. 14*, William-H. Gauvin, Pointe Claire, Que.; Richard D. Hiscocks, Downsview, Ont.; Claude Jodoin, Ottawa, Ont.; D. J. LeRoy,

Toronto, Ont.; H. Roche Robertson, Montreal, Que.; John M. Robson, Ottawa, Ont.; and Max Wyman, Edmonton, Alta.: to be members for three years from Apr. 1, 1967 to May 31, 1970. *Aug. 23*, W. G. Schneider, Vice-President (Scientific): to be President from Sept. 1, 1967.

Northern Canada Power Commission.—1968. *Jan. 30*, John A. MacDonald: to be Chairman, *vice* Ernest A. Côté, from Mar. 1, 1968.

Northwest Territories Council.—1967. *Mar. 2*, Stuart Hodgson, Ottawa, Ont.: to be Commissioner; John H. Parker, Yellowknife, N.W.T.: to be a member and Deputy Commissioner. *Nov. 9*, John Havelock Parker, Deputy Commissioner, Yellowknife, N.W.T.; James Gordon Gibson, Vancouver, B.C.; Hugh Campbell, Ottawa, Ont.; Lloyd Barber, Saskatoon, Sask.; and John (Tetlich) Charlie, Fort McPherson, N.W.T.: to be members.

Public Service Commission.—1968. *Jan. 18*, Ruth Elizabeth Addison: to be again a member for one year from Feb. 1, 1968. *Jan. 30*, Yves Labonté, Montreal, Que.: to be a member for ten years.

Public Service Staff Relations Board.—1967. *Feb. 27*, Jacob Finkelman: to be Chairman; and Georges Gauthier: to be Vice-Chairman, for ten years. *Mar. 2*, Jean-Réal Cardin, Quebec, Que.; Saul Frankel, Montreal, Que.; and Romeo Maione, Toronto, Ont.: to be members representative of the interests of employees, for seven years. Philip T. Davis, Ottawa, Ont.; Jacques Guilbault, Montreal, Que.; and Margaret Konantz, Winnipeg, Man.: to be members representative of the interests of the employer, for seven years. *Apr. 25*, A. Andras, Ottawa, Ont.: to be a member representative of the interests of employees, for seven years, *vice* Romeo Maione, resigned. *May 23*, Hilda Cryderman, Vernon, B.C.: to be a member, as being representative of the interests of the employer, for seven years, *vice* Margaret Konantz, deceased. *June 8*, H. W. Arthurs, Toronto, Ont.: to be adjudicator for one year on a part-time basis from June 12, 1967, and designated as Chief Adjudicator for the same period. *July 12*, Edward O'Connor, Vancouver, B.C.: to be a member representing the interests of employees, for seven years. René Doucet, Montreal, Que.: to be a member representing the interests of the employer, for seven years. *Aug. 23*, Fernand Morin, Quebec, Que.: to be an adjudicator for two years on a part-time basis from Sept. 1, 1967. *Oct. 26*, W. Steward Martin, Winnipeg, Man.: to be a part-time adjudicator for two years from Nov. 1, 1967.

Royal Canadian Mounted Police.—1967. *Aug. 15*, M. F. A. Lindsay: to be Commissioner.

Royal Commissions.—1967. *July 4*, Hon. Mr. Justice W. G. Morrow, a Judge of the Territorial Court of the Northwest Territories: to be a Commissioner, under Part I of the Inquiries Act, to investigate and report upon the administration of justice in the Hay River Area of the Northwest Territories. **1968.** *Feb. 2*, John Peters Humphrey, Montreal, Que.: to be a Commissioner, together with persons appointed pursuant to Order in Council P.C. 1967-312 of 16th February 1967, to inquire into and report upon the status of women in Canada.

Science Council of Canada.—1967. *July 12*, J. R. Weir: to be an associate member, *vice* F. A. Forward, resigned. *July 13*, John Wood: to be a member until June 7, 1970, *vice* Frank Howard Sherman, resigned. *Oct. 10*, Arthur J. R. Smith: to be an associate member, *vice* John J. Deutsch, resigned. *Dec. 7*, R. J. Uffen, Chairman of the Defence Research Board: to be a member for three years, *vice* A. H. Zimmerman, deceased. **1968.** *Mar. 12*, A. W. H. Needler, Deputy Minister of Fisheries: to be a member for three years, *vice* Robert Glen, from Apr. 1, 1968.

Unemployment Insurance Commission.—1967. *Nov. 23*, Jacques Marcel DesRosiers: to be Chief Commissioner for ten years from Dec. 11, 1967.

War Veterans Allowance Board.—1967. *June 22*, John Harold McDougal Dehler, Ottawa, Ont.: to be a temporary member for a further period of one year from Oct. 15, 1967. **1968.** *Mar. 5*, Ernest Gordon Blair Foote: to be again a temporary member for one year from May 15, 1968. *Mar. 7*, Ernest A. Côté, Deputy Minister of Veterans Affairs: to be an additional member. F. T. Mace, Assistant Deputy Minister of Veterans Affairs: to be the alternate for Mr. Côté in this capacity.

PART IV.—ORDER OF CANADA AWARDS

In 1967, the Centennial of Confederation, there was established a system of honours and awards for Canada. On the recommendation of the Government, Her Majesty Queen Elizabeth the Second approved the issue of Letters Patent establishing a society of honour to be known as "The Order of Canada" for the purpose of according recognition to Canadian citizens and other persons for merit. The Order consists of three awards—the Companion of the Order of Canada, the Medal of Courage and the Medal of Service. The Chancellor and Principal Companion of the Order is the Governor General and nominations for awards are made directly to the Governor General by an Advisory Council composed of the Chief Justice of Canada (Chairman), the Clerk of the Privy Council, the Under Secretary of State, the Chairman of the Canada Council, the President of the Royal Society of Canada and the President of the Association of Universities and Colleges of Canada. Companions of the Order are selected on the basis of "merit, especially service to Canada or to humanity at large" and the maximum number shall never exceed 150. The Medal of Courage is awarded for the performance of "an act of conspicuous courage in circumstances of great danger" and is not, of course, limited to a fixed maximum number. The Medal of Service is awarded for different categories of meritorious service from that for Companions and not more than 50 may be given in any one year.

On July 7, 1967, the Governor General, in his capacity as Chancellor and Principal Companion of the Order of Canada, appointed the following:—

To be Companions of the Order of Canada

Edgar Spinney ARCHIBALD, C.B.E.	Colonel Robert Samuel McLAUGHLIN, E.D., C.D.
Lieutenant-Colonel Edwin Albert BAKER, O.B.E., M.C.	Honourable John Babbitt McNAIR, Q.C.
MARIEU BARBEAU	Donald Walter Gordon MURRAY, M.D.
Lieutenant-General Eedson Louis Millard BURNS, D.S.O., O.B.E., M.C.	Monseigneur Alphonse Marie PARENT, S.T.D.
George Brock CHISHOLM, C.B.E., M.C., E.D., M.D.	Major-General the Honourable George Randolph PEARKES, V.C., P.C., C.B., D.S.O., M.C., C.D.
Honourable M. J. William COLDWELL, P.C.	Alfred PELLAN
Donald Grant CREIGHTON	Wilfrid PELLETIER, C.M.G.
Jean DRAPEAU, Q.C.	Colonel Wilder Graves PENFIELD, O.M., C.M.G., M.D.
Maureen FORRESTER (Mrs. Eugene KASH)	Norman Alexander ROBERTSON
Raoul JOBIN	Gabrielle Roy (Mme Marcel CARBOTTE)
Walter Charles KOERNER	Right Honourable Louis Stephen St. LAURENT, P.C., Q.C.
Arthur LISMER	Francis Reginald SCOTT, Q.C.
John Alexander MACAULAY, Q.C.	Henry George THODE, M.B.E.
Chalmers Jack MACKENZIE, C.M.G., M.C.	Walter Palmer THOMPSON
William Archibald MACKINTOSH, C.M.G.	Honourable Madame Georges P. VANIER, P.C.
Hugh MACLENNAN	Leolyn Dana WILGRESS
Léo MARION	Healey WILLAN
Right Honourable Vincent MASSEY, P.C. (Canada), P.C. (United Kingdom), C.H.	

To Receive the Medal of Service of the Order of Canada

Pierrette ALARIE (Mme Léopold SIMONEAU)	David Arnold KEYS
Reverend David BAUER	Gustave LANCOT, Q.C.
James M. BENTLEY	Lawrence M. LANDE
Mme Yvette BRIND'AMOUR	Gilles LEFEBVRE
Mme Thérèse CASGRAIN, O.B.E.	Most Reverend Georges-Henri LÉVESQUE
Floyd Sherman CHALMERS	Elizabeth Pauline MACCALLUM
Gregory CLARK, O.B.E., M.C.	Augustine A. MACDONALD, M.D.
Alexander COLVILLE	Brian MACDONALD
Reverend Clément CORMIER, D.D.	Monseigneur Joseph Thomas Arthur MAHEUX, O.B.E.
Air Marshal Wilfred Austin CURTIS, C.B., C.B.E., D.S.C., E.D.	Reverend Mother MAURA
Mme Pauline DONALDA	Vernon Francis McADAM
Philip Sydney FISHER, C.B.E., D.S.O., D.S.C.	Leonard Hanson NICHOLSON, M.B.E.
Robert MacLaren FOWLER	Jean PALARDY
Lawrence FREIMAN	Harry Thomas PATTERSON
Jean GASCON	Isaac PHILLS
Gratien GÉLINAS	Maurice RICHARD
Gustave GINGRAS, M.D.	Paul-André RIVARD
Robert GLEN	Chester Alvin RONNING
H. Carl GOLDENBERG, O.B.E., Q.C.	Phyllis Gregory (Mrs. Frank M.) ROSS
John W. GOODALL	Adelaide (Mrs. D. B.) SINCLAIR, O.B.E.
Léo GUINDON	Ralph STEINHAEUSER
Raymond GUSHUE, C.B.E., Q.C.	Marlene Stewart (Mrs. J. D.) STREIT
Henry Foss HALL, D.D.	Kenneth Wiffin TAYLOR, C.B.E.
Eric Lafferty HARVIE, Q.C.	Honourable William Ferdinand Alphonse TURGEON, P.C., Q.C.
John Steven HIRSCH	William Elgin VAN STEENBURGH, O.B.E., E.D.
William Bruce HUTCHISON	Alje VENNEMA, M.D.
Claude JODOIN	Adam Hartley ZIMMERMAN, O.B.E.
KENOJUAUK	

On Dec. 23, 1967, the Governor General, in his capacity as Chancellor and Principal Companion of the Order of Canada, appointed the following:—

To be Companions of the Order of Canada

Charles H. BEST, C.B.E., M.D.	Wilfrid Bennett LEWIS, C.B.E.
Samuel BRONFMAN	Honourable James M. MACDONNELL, P.C., M.C., Q.C.
Honourable Lionel CHEVRIER, P.C., Q.C.	Lois MARSHALL
Lieutenant-Colonel the Honourable George Alexander DREW, P.C., C.D., Q.C.	Hilda NEATBY
Pierre DUPUY, C.M.G.	Colonel the Honourable Sir Leonard C. OUTERBRIDGE, Kt., C.B.E., D.S.O., C.D.
Jacques GENEST, M.D.	Robert F. SHAW
Alain GRANDBOIS	Honourable Robert TASCHEREAU, P.C., Q.C.
Alexander Young JACKSON, C.M.G.	

To Receive the Medal of Service of the Order of Canada

Philippe de Gaspé BEAUBIEN	Yves JASMIN
Pierre de BELLEFEUILLE	Yousuf KARSH
Audrey Alexandra BROWN	Andrew Graham KNEWASSER
Horace BOIVIN, E.D.	Jean C. LALLEMAND
Kenneth Le Mesurier CARTER	Lieutenant-Colonel the Reverend Sidney E. LAMBERT, O.B.E.
Bruce CHOWN, M.C., M.D.	Maurice LEBEL
Colonel Edward CHURCHILL, C.D.	Robert Ferguson LEGGET
Nina F. (Mrs. Harry) COHEN	Monique LEYRAC (Mme Jean Dalmain)
John G. COUNSELL, O.B.E., M.C.	Lieutenant-Colonel the Honourable J. Keiller MACKAY, D.S.O., V.D., Q.C.
John Hubert CRAIGIE	Reverend Father Noël MAILLOUX
Jean-Claude DELORME	Pauline M. (Mrs. Donald W.) MCGIBBON
Alice Vibert DOUGLAS, M.B.E.	Lieutenant-General Robert W. MONCEL, D.S.O., O.B.E., C.D.
Edouard FISET	Gilbert C. MONTURE, O.B.E.
John Wiggins FISHER	Aline (Mme Hector) PERRIER
Kenneth Keith FORBES	John Erskine READ, Q.C.
Celia FRANCA (Mrs. James MORTON)	G. Dale REDIKER
Georges-E. GAUTHIER	Roger Nantel SÉGUIN
Bobby GIMBY	Gordon Merritt SHRUM, O.B.E., M.M., E.D.
Lieutenant-General Howard Douglas GRAHAM, C.B.E., D.S.O., E.D., C.D., Q.C.	Frank UNDERHILL
Nancy Catherine GREENE	Charlotte Elizabeth WHITTON, C.B.E.
Brigadier the Honourable Milton Fowler GREGG, V.C., P.C., C.B.E., M.C., E.D.	Francis George WINSPEAR
Hugh J. HEASLEY, D.S.O., V.D.	

PART V.—FEDERAL LEGISLATION, 1967-68

Legislation passed in the first session of the Twenty-seventh Parliament from Apr. 3, 1967 (after the Easter adjournment) to May 8, 1967 (the date of prorogation) is outlined in the following statement, followed by legislation passed in the second session of the Twenty-seventh Parliament from May 8, 1967 to Apr. 23, 1968 (the date of dissolution). Naturally in summarizing material of this kind it is not always possible to convey the full implication of the legislation. The reader who is interested in any specific Act is therefore referred to the *Statutes of Canada* in the given volume and chapter.

Legislation of the First Session of the Twenty-seventh Parliament, Apr. 3, 1967 to May 8, 1967*

Subject, Chapter and Date of Assent			Synopsis
15-16 ELIZ. II 1967			
94	May	8	<i>The Adult Occupational Training Act</i> extends training services to all persons with adult responsibilities who can benefit from such occupational training. It authorizes: the entering into contracts with provinces and employers to provide for payment of costs they may incur for such training; the payment of tuition and other costs for training courses not operated by a province or an employer; the payment of training allowances to persons undertaking occupational training; the making of agreements with the provinces respecting research in this field; and the payment of loans to provinces to assist in the provision of training facilities. The Act arranges for the transition from present agreements to the new program.
95	May	8	<i>Appropriation Act No. 4, 1967</i> grants certain sums of money for the public service for the financial year ending Mar. 31, 1968.
96	May	8	<i>The Canadian Forces Reorganization Act</i> amends the National Defence Act to provide for the amalgamation of the Navy, Army and Air Force into a single service called the Canadian Armed Forces, and amends other Acts in consequence thereof.
97	May	8	<i>An Act to amend the Income Tax Act</i> terminates, effective Mar. 31, 1967, the tax period to which the special 5-p.c. refundable tax on business profits applies and also terminates on the same date the period of collection of the tax from corporations.

* The first session of the Twenty-seventh Parliament opened Jan. 18, 1966; legislation passed from that date to the Easter adjournment in 1967 is outlined in the 1967 Year Book, pp. 1247-1253.

Legislation of the Second Session of the Twenty-seventh Parliament, May 8, 1967 to Apr. 23, 1968

Subject, Chapter and Date of Assent			Synopsis
16-17 ELIZ. II Finance— 1967			
2	July	7	<i>Appropriation Act No. 5, 1967</i> (Main Supply) grants certain sums of money for the public service for the financial year ending Mar. 31, 1968.
3	July	7	<i>Appropriation Act No. 6, 1967</i> (Interim) grants certain sums of money for the public service for the financial year ending Mar. 31, 1968.
8	July	7	<i>Appropriation Act No. 7, 1967</i> grants certain sums of money for the public service for the financial year ending Mar. 31, 1968.
19	Dec.	21	<i>An Act to amend the Industrial Development Bank Act</i> includes as a member of the Bank the Deputy Minister of Industry and increases the authorized capital of the Bank from \$50,000,000 to \$75,000,000 and its borrowing authority from five times to ten times the amount of its paid-up capital and Reserve Fund.

**Legislation of the Second Session of the Twenty-seventh Parliament,
May 8, 1967 to Apr. 23, 1968—continued**

Subject, Chapter and Date of Assent	Synopsis
Finance—concluded 1968	
26 Mar. 7	<i>An Act to amend the Currency, Mint and Exchange Fund Act and the Criminal Code</i> mainly revises the former Act with respect to the composition of coins and revises the Criminal Code in consequence thereof; the schedule to the Act describing composition, standards and remedy allowance of gold and subsidiary coins is replaced.
34 Mar. 27	<i>Appropriation Act No. 1, 1968</i> grants certain sums of money for the public service for the financial year ending Mar. 31, 1968.
35 Mar. 27	<i>Appropriation Act No. 2, 1968</i> grants certain sums of money for the public service for the financial year ending Mar. 31, 1969.
Government— 1967	
6 July 7	<i>The Cape Breton Development Corporation Act</i> establishes a Crown corporation to acquire the interests of the major coal producer in the Sydney coal-field and to reorganize and operate the mines with a view to the rationalization of coal production therefrom and the gradual withdrawal of the Corporation from such production.
9 Nov. 6	<i>An Act to amend the Canada Corporations Act</i> removes discrepancies resulting from amendments made previously and clarifies provisions affected by those amendments.
10 Nov. 6	<i>An Act respecting the Electoral Boundaries Readjustment Act</i> changes the name of the electoral district of Peel-Dufferin to Peel-Dufferin-Simcoe.
11 Nov. 6	<i>An Act respecting the Electoral Boundaries Readjustment Act</i> changes the name of the electoral district of Oshawa to Oshawa-Whitby.
12 Dec. 21	<i>An Act respecting the boundary between the Province of British Columbia and the Yukon and Northwest Territories</i> declares the boundary line surveyed and marked on the ground under the direction of Commissioners appointed therefor to be the boundary line between the Province and the Territories concerned.
16 Dec. 21	<i>The Department of Consumer and Corporate Affairs Act</i> establishes a Department of Consumer and Corporate Affairs, the Minister of which shall perform functions relating to consumer affairs; corporations and corporate securities; combines, mergers, monopolies and restraint of trade; bankruptcy and insolvency; and patents, copyrights and trade marks; and shall continue to be a Registrar General of Canada.
18 Dec. 21	<i>An Act to amend the Government Employees Compensation Act</i> provides for coverage under the Act for persons required to take training before being employed by the Federal Government and persons on leave without pay for the same purpose; it also provides coverage in the case of an employee suffering disability or death attributable to environmental conditions of the place to which he was assigned.
21 Dec. 21	<i>The National Museums Act</i> establishes a corporation for the administration of the National Museums of Canada, comprising a museum of fine arts known as the National Gallery of Canada, a museum of human history, a museum of natural history, a museum of science and technology, and such other museums as may be established.
1968	
32 Mar. 7	<i>An Act to amend the Territorial Lands Act, the Land Titles Act and the Public Lands Grant Act</i> provides for a simplified procedure for the granting of territorial lands and makes changes in the Lands Titles Act and the Public Lands Grants Act consequential upon that procedure.
Defence— 1967	
23 Dec. 21	<i>The Visiting Forces Act</i> combines previous legislation relating to the armed forces of other countries visiting Canada, without affecting the existing agreement concerning visiting forces of NATO countries.
1968	
27 Mar. 7	<i>An Act to amend the Defence Production Act</i> makes a change with respect to contract regulations.

**Legislation of the Second Session of the Twenty-seventh Parliament,
May 8, 1967 to Apr. 23, 1968—continued**

Subject, Chapter and Date of Assent	Synopsis
Justice—	
1967	
7 July 7	<i>The Interpretation Act</i> consolidates the Interpretation Act and amendments thereto and effects certain consequential amendments to the Canada Evidence Act and the Bills of Exchange Act. The purposes of this legislation are to establish uniform definitions and modes of expression, to eliminate repetition in the statutes and to facilitate the drafting and construction of statutes. In the present revision some new provisions have been added and others improved and the language has been revised throughout in accordance with modern drafting standards.
15 Dec. 21	<i>An Act to amend the Criminal Code</i> confines, for an experimental period of five years, the imposition of the death penalty in relation to murder to the murder of police officers and others employed for the maintenance of the public peace, acting in the course of their duties, and to the murder of prison guards and other officers or permanent employees of prisons, acting in the course of their duties.
20 Dec. 21	<i>An Act to amend the Judges Act</i> authorizes the provision of salaries for nine additional judges.
Manpower and Immigration—	
1967	
1 June 8	<i>An Act to amend the Immigration Act</i> increases from \$12,000,000 to \$20,000,000 the ceiling on the amount of assisted passage loans to immigrants that may be outstanding at any one time.
13 Dec. 21	<i>The Canada Manpower and Immigration Council Act</i> authorizes the establishment of a Council of not more than 15 members to be appointed by the Governor in Council to advise the Minister of Manpower and Immigration on all matters pertaining to the effective utilization and development of manpower resources in Canada, including immigrants and their adjustment to Canadian life.
1968	
37 Mar. 27	<i>An Act to amend the Immigration Act</i> gives permanent status under the Act to immigrants who have suffered from a mental disorder but who apparently have been cured, and to persons who have been convicted of and imprisoned for crimes after a period during which they have demonstrated their rehabilitation.
Revenue—	
1968	
28 Mar. 7	<i>An Act to amend the Excise Act</i> implements the Excise Act resolution tabled in the House of Commons on Nov. 30, 1967 with respect to increased federal taxes on spirits, brandy and beer.
29 Mar. 7	<i>An Act to amend the Excise Tax Act</i> implements the Excise Act resolution tabled in the House of Commons on Nov. 30, 1967 with respect to increased federal taxes on cigarettes, cigars, tobacco and wine, certain exemptions from sales tax, etc.
38 Mar. 27	<i>An Act to amend the Income Tax Act</i> , among other things, levies, with respect to taxable income earned in 1968 and 1969, a surtax equal to 3 p.c. of the income tax otherwise payable by a corporation and, for an individual, a surtax equal to 3 p.c. of his basic tax in excess of \$200. The amendment also provides that corporations will be required to pay their corporation income tax over a period that commences two months closer to the beginning of their taxation year than previously, and that the full amount of a gift to a province may be deducted from the income of the donor, with a retroactive provision.
Transportation and Communications—	
1967	
14 Dec. 21	<i>The Canadian National Railways Financing and Guarantee Act, 1967</i> authorizes the provision of money to meet certain capital expenditures of the CNR system for the period Jan. 1, 1967 to June 30, 1968 and authorizes the guarantee of certain securities to be issued by the CNR.

**Legislation of the Second Session of the Twenty-seventh Parliament,
May 8, 1967 to Apr. 23, 1968—concluded**

Subject, Chapter and Date of Assent	Synopsis
Transportation and Communications— concluded	
1967	
22 Dec. 21	<i>The Teleferry Act</i> authorizes federal regulation of aerial cable-cars that connect provinces or Canada and the United States, through licensing and safety provisions.
1968	
25 Mar. 7	<i>The Broadcasting Act</i> implements a broadcasting policy for Canada and authorizes the establishment of the Canadian Radio-Television Commission as a single independent public authority to regulate and supervise the Canadian broadcasting system; the Radio Act is amended in consequence thereof and other related provisions included.
31 Mar. 7	<i>The Northern Ontario Pipe Line Crown Corporation Dissolution Act</i> provides for the dissolution of that Corporation.
Miscellaneous—	
1967	
4 July 7	<i>An Act to amend the Canadian Citizenship Act</i> provides for flexibility in the residence requirement of an applicant, clarifies the oath of allegiance requirement, provides for resumption of citizenship after residence abroad, establishes a Citizenship Appeal Court to hear appeals from final decisions of Citizenship Courts refusing applications for citizenship, and defines Canadian citizenship rights of persons born in Newfoundland or outside of Newfoundland of Newfoundland parents. Amendments are also made with respect to offences under the Act and penalties therefor.
5 July 7	<i>An Act to amend the Canadian Wheat Board Act</i> makes permanent the powers of the Board which previously were to terminate on Aug. 1, 1967, and lists the mills and feed warehouses in existence on Mar. 1, 1967.
17 Dec. 21	<i>An Act to amend the Emergency Gold Mining Assistance Act</i> extends the application of the Act to 1968, 1969 and 1970 without change in the method of computing the amount of assistance payable.
1968	
24 Feb. 1	<i>The Divorce Act</i> codifies and extends the laws of divorce. It retains the traditional marital offences as grounds for divorce and includes as well a modified concept of marriage breakdown as a new ground for divorce; contains provisions placing the married woman in a position equivalent to that of her husband for the purpose of obtaining a valid decree of divorce both in Canada and abroad; includes alimony and child maintenance and custody provisions; abolishes parliamentary divorce, vesting divorce jurisdiction in respect of Quebec and Newfoundland in a new divorce division of the Exchequer Court of Canada; and it includes detailed appeal provisions and many consequential and other matters in relation to divorce.
30 Mar. 7	<i>An Act to amend the Fish Inspection Act</i> extends the definition of "container" to include wrappers and confining bands and prohibits the import and export of fish that is tainted, decomposed or unwholesome.
33 Mar. 7	<i>An Act to amend the Unemployment Insurance Act</i> broadens the coverage of the Act to include salaried workers earning up to \$7,800 a year and establishes new schedules of contributions to be paid by employers on behalf of employees, of benefits and of allowable earnings for persons in receipt of benefits.
36 Mar. 27	<i>An Act to amend the Canada Deposit Insurance Corporation Act</i> makes provision for the situation that arises with respect to the deposits of a depositor when member institutions merge, makes amendments concerning the assessing and collecting of premiums under the Act and adds a new section covering provincial insuring arrangements.
39 Mar. 27	<i>An Act to amend the National Housing Act, 1954</i> increases from \$13,000 to \$18,000 the loan ratios for insured loans to home owners, builders, and co-operative housing associations for the construction of new housing units.

PART VI.—CANADIAN CHRONOLOGY

Events in the general chronology from 1497 to 1866 are given in the 1951 Year Book, pp. 46-49; from 1867 to 1953 in the 1954 Year Book, pp. 1259-1264; and annually from that year in successive editions. A reprint entitled *Canadian Chronology, 1497-1960* is also available from the Dominion Bureau of Statistics. The following listing covers the year 1967 and Jan. 1-Apr. 5, 1968 and it should be mentioned that certain of the dates given therein are approximate. References regarding changes in federal and provincial legislatures or ministries are not included but may be found in Chapter II on Constitution and Government or in Appendix I.

1967

January: *Jan. 1*, Mme Georges P. Vanier, wife of the Governor General, dedicated Canada's Centennial Train at Ottawa prior to its departure for Victoria where it began, on Jan. 9, an 83-stop tour of Canada. *Jan. 4*, Dr. Helen Hogg, University of Toronto, awarded the Rittenhouse Silver Medal by the Rittenhouse Astronomical Society for her study of variable stars; she was the first Canadian and the second woman to receive the honour. *Jan. 5*, Death of David Roger Mitchell, M.P. for Sudbury. Federal proclamation that Jan. 11, 1967, the birthday of Sir John A. Macdonald, be commemorated across Canada in observance of his place in history as one of the Fathers of Confederation and the first Prime Minister of Canada. *Jan. 9*, Hon. Walter L. Gordon reappointed to the Federal Cabinet. Death in Winnipeg of Manitoba's Lieutenant-Governor, Hon. Errick F. Willis. *Jan. 11*, Canada's tallest and newest hotel, the 38-storey Château Champlain in Montreal, officially opened. *Jan. 13*, Nancy Greene, Rossland, B.C., won the Swiss international ski championship. *Jan. 14*, Large-scale strike by Roman Catholic elementary and secondary school teachers closed hundreds of schools in Montreal and Trois-Rivières; Mr. Justice André Montpetit of Quebec Superior Court appointed by the Quebec Government Jan. 17 as mediator. Death of Hon. J. L. Ilsley, former Minister of National Revenue, Minister of Finance and Minister of Justice. *Jan. 18*, Yellowknife, N.W.T., officially named capital of the Northwest Territories. *Jan. 23*, Special ministerial committee created to study the implications of foreign ownership and control of Canadian industry, headed by Hon. Walter L. Gordon. *Jan. 24*, The British Columbia Legislature opened its 28th Legislature at New Westminster in commemoration of the opening of the first session of the Legislative Council of the United Colony of British Columbia which merged the colonies of Vancouver Island and British Columbia in New Westminster one hundred years ago. *Jan. 27*, Col. Virgil Grissom, Lt.-Col. Edward White and Lt.-Cmdr. Roger Chaffee, crew of the U.S. *Apollo* spacecraft project, died in a fire on the launching pad at Cape Kennedy. The Outer Space Treaty on the peaceful exploration and use of outer space, including the moon and other celestial bodies, approved by the UN General Assembly Dec. 19, 1966, signed by Canada in London, Moscow and Washington. *Jan. 29*, Valerie Jones, Toronto, and Donald Knight, Dundas, Ont., won the Canadian senior singles figure-skating championships in Toronto. Explosions occurred at Yugoslav embassies and consulates in six North American cities, including Ottawa and Toronto; buildings were damaged but there were no injuries. *Jan. 30*, Bank of Canada interest rate reduced to 5 p.c. from 5½ p.c. City of Montreal clerical workers went on strike, closing down municipal works, the social welfare department and the City Hall.

February: Under Stage Two of the Federal Government program for bilingualism, 20 top civil servants moved to Quebec for a year of intensive schooling in French. The Netherlands announced decision to buy 105 CF-5 ground-attack aircraft worth about \$100,000,000, to be built mainly in Canada. Contract signed covering the sale of 1,500,000,000 Mcf. of natural gas from reserves in the Northwest Territories, the Yukon Territory and northeastern British Columbia, the most remote areas yet to be exploited. 135 hospital workers in Grand Falls, Nfld., voted to return to work after a week on strike rather than defy legislation under which they could be fired and their union decertified. *Feb. 3*, Prime Minister Pearson announced the appointment of Anne Francis (Mrs. John Bird), free-lance journalist of Ottawa, as Chairman of the Royal Commission on the Status of Women. *Feb. 6*, A bronze bust of Hon. Ellen Fairclough, Canada's first woman cabinet minister, presented by the Zonta Club of Hamilton to the House of Commons. *Feb. 10*, Royal Assent given to an Act to require all Ontario-incorporated loan and trust companies to insure their deposits with a Crown corporation. *Feb. 11-18*, First Canadian Winter Games held at Quebec City, assisted by \$700,000 in federal funds. *Feb. 13-22*, Controversy *re* terms under which the U.S.-owned Mercantile Bank of Canada may operate in Canada; resolved by allowing the City Bank of New York an extra five years to sell Canadians 75 p.c. of its shares in the Mercantile Bank. *Feb. 15*, Report of the Senate-Commons committee on investigation of consumer credit tabled in the House of Commons; full disclosure of interest and credit charges recommended. *Feb. 17*, The Quebec Government's controversial Bill 25 ended a five-month teacher strike by ordering their return to classrooms within 48 hours and suspending their right to strike until June 30, 1968. Sinclair Stevens, Chairman of the Bank of Western Canada, resigned and the Bank directors given 30 days in which to acquire more Western Canadian capital. Royal Assent given to an Act establishing the Canada Deposit Insurance Corporation and requiring all federally incorporated trust and loan companies to insure their deposits with the Corporation. *Feb. 23*, Resignation of Senator Keith Davey as Commissioner of the Canadian Football League announced. *Feb. 24*, Report of the Royal Commission on Taxation headed by Kenneth Carter, Toronto, tabled in the House of Commons. The National Press Club of Canada presented its 1967 Award for Excellence to Gillis Purcell, General Manager of Canadian Press. *Feb. 27-May 29*, Six of Britain's eight remaining colonies in the Caribbean assumed responsibility for their own internal affairs with Britain remaining responsible for defence and certain external relations—Antigua and St. Kitts, Feb. 27; Dominica and St. Lucia, Mar. 1; Grenada, Mar. 3; and St. Vincent, May 29.

March: *Mar. 2*, Society of Honour to be known as the Order of Canada established by Order in Council. Canadian women's curling championship won by Winnipeg rink skipped by Betty Duguid. Leaflets tossed from the Public Gallery in the House of Commons by John Campbell of Montreal to draw attention to the case of Calvin MacDonald who claimed unfair treatment by the RCMP. *Mar. 3*, O. J. Gaffney Construction Company of Stratford, Ont., found responsible for the Heron Road bridge collapse in Ottawa on Aug. 10, 1966, and fined the maximum penalty of \$5,000. Investigations begun into the affairs of the Oshawa Acceptance Corp., Oshawa, Ont., after complaints of investors that they had not received interest on their deposits. *Mar. 4*, Montreal's 4,500 civic clerical workers accepted a new two-year contract and ended a 34-day strike. *Mar. 6*, Death of His Excellency General The Right Honourable Georges P. Vanier, D.S.O., M.C., C.D., Governor General of Canada, in Ottawa, at age 78; seven-day mourning period proclaimed; burial took place at The Citadel, Quebec City, on May 4. *Mar. 9*, Appointment of G. Hamilton Southam as first Director of the National Arts Centre at Ottawa, to be completed in 1969. *Mar. 10*, The Brier Cup won by curling team skipped by Alfie Phillips, Jr., of Toronto, the first time in 16 years it has been won by an Eastern Canadian rink. Mrs. Viola MacMillan convicted on charges of wash trading in shares of Consolidated Golden Arrow Mines Ltd., in 1964; sentenced Mar. 17 to nine months in reformatory and fined \$10,000. *Mar. 11*, Death in Toronto, Ont., of Senator W. Rupert Davies. *Mar. 12*, Death in Saint John, N.B., of Senator A. Neil McLean. *Mar. 13*, The Public Service Staff Relations Act, providing bargaining rights to over 200,000 employees, the new Public Service Employment Act and the revised Financial Administration Act, establishing the Treasury Board as the central management agency for the Public Service, came into force. *Mar. 16*, The Quebec Government increased provincial sales tax from 6 p.c. to 8 p.c., the highest in Canada, and became the first province to introduce a family allowance program to supplement the federal allowance. *Mar. 17*, Award of the 1966 Stephen Leacock Memorial medal to Richard J. Needham, columnist of the *Toronto Globe and Mail*, for his book *Needham's Inferno*. Toronto-based financial empire of Sinclair Stevens, including control of the Bank of Western Canada, passed to M. M. Bienvendu of Montreal, who purchased controlling interest in British International Finance (Canada) Ltd. A special Commons-Senate committee, for the first time in Canadian history, recommended that both Houses of Parliament pass an Address to the Governor General for the removal of Mr. Justice Léo A. Landreville from the Ontario Supreme Court. Resignation of Robert Thompson, M.P., as leader of the National Social Credit Party. *Mar. 21*, The Canadian Brotherhood of Transport and General Workers (CLC) concluded negotiations which resulted in the acceptance of a 24-p.c. increase over three years for 22,000 workers on the CNR, bringing the total number of workers who have accepted the Goldenberg settlement formula (December 1966) to 98,000. *Mar. 22*, Report of the Ontario Securities Commission and auditors regarding collapse of the Prudential Finance Corp. tabled in the Ontario legislature found strong suspicion of false and misleading audit statements. *Mar. 24*, The International Ice Hockey Federation awarded Canada the 1970 World Hockey Tournament. *Mar. 27*, Russia won the world hockey championship, defeating Canada 2 to 1. *Mar. 28*, Nancy Greene, Rossland, B.C., won the first World Cup for women skiers at Jackson Hole, Wyoming. *Mar. 27-30*, Conference of the Canadian Institute of Mining and Metallurgy held in Ottawa, attended by 3,000 delegates. *Mar. 29*, Roland Michener appointed Governor General of Canada; sworn in Apr. 17. The first debentures

in Canadian banking history offered by the Toronto-Dominion Bank under authorization of the new Bank Act.

April: *Apr. 1*, Bush pilot Robert Gauchie, downed within 60 miles of the Arctic Circle, found alive after 58 days. *Apr. 3*, Fifteen men killed and nine injured in an underground coal mine explosion near Natal, B.C. Resignation of Hon. Guy Favreau as President of the Privy Council and Registrar General and Member of Parliament; appointed to the Quebec Superior Court. Debate of unification of Armed Forces begun by Minister of Defence Hellyer; Act passed by House of Commons Apr. 25 combining the Royal Canadian Navy, the Canadian Army and the Royal Canadian Air Force into a unified service "The Canadian Armed Forces". *Apr. 4*, Resignation of Hon. Lucien Cardin as Minister of Justice and Member of Parliament. *Apr. 6*, Commissioner George B. McClellan of the Royal Canadian Mounted Police named ombudsman in Alberta, the first position of its kind in Canada. *Apr. 6-9*, Representatives of veterans' organizations kindled torches from the Centennial Flame on Parliament Hill and transferred flame in miners' lamps to the Canadian war memorial in France to commemorate the 50th anniversary of the battle of Vimy Ridge Apr. 9; H.R.H. the Duke of Edinburgh, representing H.M. Queen Elizabeth II, was guest of honour. Ceremonies also took place in Ottawa. *Apr. 7*, The Bank of Canada reduced its lending rate to 4½ p.c. from 5 p.c. *Apr. 11*, Bower Edward Featherstone, federal civil servant, convicted under the Official Secrets Act of obtaining a confidential navy chart; sentenced Apr. 24 to 2½ years in penitentiary. *Apr. 12*, The House of Commons unanimously approved Commons-Senate committee report recommending adoption of the present music for *O Canada* as the National Anthem and the traditional music for *God Save the Queen* as the Royal Anthem in Canada. *Apr. 17*, Prime Minister Pearson announced the creation of the major honour, the Order of Canada, to be awarded on merit, especially for service to Canada or to humanity at large. The Order will have three classes: Companion of the Order, bearing the letters C.C. after the name and limited to 150; Medal of Courage, bearing the letters C.M. and unlimited in number; and Medal of Service, bearing the letters S.M. and limited to 50 a year. *Apr. 18*, Manitoba approved the imposition of a 5-p.c. sales tax, effective June 1. The Union of Quebec Specialized Education Teachers was convicted of contempt of court when its 2,300 members ignored a 1966 court injunction forbidding strike action and left 30,000 students without classroom instruction from Apr. 12-30; the union was fined \$2,000 and each executive member was sentenced to 20 days in prison. *Apr. 19*, U.S. spacecraft *Surveyor III* made soft landing on moon to scout astronaut landing site, using shovel and camera to return detailed information of the moon's surface. *Apr. 19-20*, First meeting of the Canada-United Kingdom Joint Ministerial Committee on Trade and Economic Affairs held in London, Eng. *Apr. 23-24*, The U.S.S.R. spacecraft *Soyuz I* launched, and after orbit plunged to earth killing pilot Vladimir M. Komarov, the first announced fatality in space flight of either the U.S. or the U.S.S.R. *Apr. 24*, At the annual meeting of the Board of Governors of the Inter-American Development Bank in Washington, Canada pledged a further \$10,000,000 in loan funds, bringing its allocations to \$40,000,000. *Apr. 24-May 19*, Special session of the UN General Assembly voted to establish a council to administer South West Africa following the legal termination of the South African mandate. *Apr. 27*, Expo 67 officially opened in Montreal. Emperor Haile Selassie of Ethiopia was the first state visitor. Attendance in the first three days was 1,472,000.

May: The first off-shore semi-submersible drilling vessel to be assembled in Canada, the largest of its kind in the world, began drilling for oil and gas off Vancouver Island. *May 1*, The Bank of Montreal reduced its lending rate to 5½ p.c. from 6 p.c. and established a new type of savings account paying a higher rate of interest than normal savings accounts but with non-checking privileges, the beginning of increased competition among Canadian banks. *May 2*, Toronto Maple Leafs won the Stanley Cup, symbol of hockey supremacy, over the Montreal Canadiens, 4 games to 2. *May 4*, The Supreme Court of Canada rejected the appeal of Steven Truscott that he was wrongly convicted of the 1959 rape-murder of Lynne Harper. *May 11*, Death of Margaret McTavish Konantz, former M.P. for Winnipeg South and Canadian chairman of UNICEF. Death in Montreal of Senator Vincent Dupuis. Mrs. Marie Penny of Newfoundland became the first woman president of the Fisheries Council of Canada. *May 13*, Death in Toronto of Dana Harris Porter, Chief Justice of Ontario since 1958. *May 14*, H.R.H. Princess Alexandra and her husband Angus Ogilvy arrived in Toronto to begin a 26-day visit to Canada. *May 16*, Indian Affairs and Northern Development Minister Laing announced a \$1,000,000 program to help Indians buy or build homes off their reserves and nearer to their places of employment. *May 17*, The City of Montreal celebrated its 325th birthday. *May 18*, The 25th anniversary of Canadian Pacific Air Lines celebrated in Ottawa; a rebuilt Fairchild Model 82 aircraft, one of a type that opened the Canadian North in the 1930s, was presented by the airline to the Canadian National Aviation Museum in Ottawa. *May 19*, The 11-year UN peace-keeping Emergency Force in the Near East, of which approximately one fourth were Canadians, came to an end on demand of the United Arab Republic and orders of UN Secretary-General U Thant. *May 20*, An Air Canada DC-8F jet aircraft crashed near Ottawa on a training flight, killing the three veteran pilots aboard. *May 23*, Provincial election in Alberta; Social Credit government under Premier Manning returned to 9th consecutive term of office. *May 24*, More than 10,000 Ontario and Quebec dairy farmers demonstrated on Parliament Hill in support of their demand for higher milk prices; the demonstration resulted in the doors of the Centre Block being locked against Canadians for the first time. Award of the first \$50,000 Royal Bank Centennial Medal to Dr. Wilder Penfield, founder of the Montreal Neurological Institute, announced. Official opening of Bellevue House, Kingston home of Sir John A. Macdonald, by National Revenue Minister Benson. Centennial Voyageur Canoe pageant began in Alberta at Rocky Mountain House on the North Saskatchewan River, a race between teams representing eight provinces and two territories to cover the 3,283 miles to Expo 67 in Montreal by Sept. 4. *May 24-26*, First annual congress of the Canadian Meteorological Society, formerly the Canadian Branch of the Royal Meteorological Society, held in Ottawa. *May 25*, The gift of the United States to Canada, The Great Ring of Canada, unveiled by U.S. President Lyndon B. Johnson at Expo 67. *May 27*, Twelve chairs, each bearing the crest of a Canadian province or territory, presented to the Confederation Centre in Charlottetown, P.E.I., as a centennial project of the Federated Women's Institutes of Canada. *May 28*, Dr. John J. Deutsch, Chairman of the Economic Council of Canada, appointed Principal of Queen's University, effective Sept. 1 following retirement of Dr. J. A. Corry. Sir Francis Chichester landed at Plymouth, England, after completing a 28,500-mile voyage around the world in *Gypsy Moth IV*, the first man to have sailed around the world alone with only one stop on land. *May 29*, Announcement of the design of the new uniform for all branches of the

Canadian Armed Forces—dark green with standard insignia and badges. Mayor Drapeau of Montreal received the Gold Medal of The Royal Architectural Institute of Canada for distinguished service to the arts and architecture in 1967. *May 30*, Provincial election in Nova Scotia; Premier Stanfield's Progressive Conservative Government returned to power in its fourth consecutive victory. Announcement of approval by H.M. Queen Elizabeth II of the institution by the Government of Canada of "The Canadian Centennial Medal 1967" to commemorate the Centennial of Confederation. *May 31*, Twelve white swans flown to Canada from England, gift of H.M. Queen Elizabeth II to the City of Ottawa to mark Centennial Year. The Sir John Carling Building, new Canada Department of Agriculture headquarters at Ottawa, formally opened by Agriculture Minister Greene.

June: *June 1*, Federal sales tax removed from drugs effective Sept. 1. *June 5*, Outbreak of hostilities between the armed forces of Israel and her neighbours announced by UN Secretary-General U Thant at emergency session of Security Council. *June 8*, Syria, the last of the three major partners in the Israel-Arab conflict, agreed to a cease-fire. Letter of resignation from Mr. Justice Léo A. Landreville as a Justice of the Supreme Court of Ontario tabled in the House of Commons; acceptance announced. *June 14*, A bronze bust of Mrs. Mariana Jodoin, the first French-Canadian woman to be named to the Senate, unveiled in the Senate antechamber, a gift of the Canadian Chapter of the World Association of Women Executives. *June 20*, The \$13,000,000 National Library and Archives Building in Ottawa officially opened by Prime Minister Pearson. The U.S. Federal Power Commission approved Trans-Canada Pipe Line plans to build a link to carry Western Canadian natural gas to Eastern Canadian and U.S. markets via the United States. *June 21*, Official opening of a \$1,600,000 marine sciences laboratory at Logy Bay, Nfld., during the first meeting of the American Society of Limnology and Oceanography held outside the United States in 30 years. *June 22-July 5*, CCGS *Tupper*, on official visit to Expo 67 as part of the Department of Transport's Centennial Program, carried a group of orphaned children under the sponsorship of the P.E.I. Command of the Royal Canadian Legion. *June 24*, Queen's Plate won by Jammed Lovely, owned by Conn Smythe of Toronto. *June 29-July 6*, Visit of H. M. Queen Elizabeth II and H. R. H. the Duke of Edinburgh to Canada. *June 30*, Dosco Industries Limited closed the Bell Island iron mine in Newfoundland after 72 years of continuous operation. The Kennedy Round of negotiations on tariffs and trade signed in Geneva, to come into effect Jan. 1, 1968; over \$3,000,000,000 worth of Canadian exports will benefit and Canadian concessions on imports amount to about \$2,500,000,000. *June 30-July 1*, President Zakir Husain of India opened a multi-million-dollar hardboard factory operated by Indian interests at East River near Halifax during official visit to Canada.

July: *July 1*, Canada's 100th birthday marked by celebrations on Parliament Hill beginning on the eve of June 30 with a 100-gun salute and continuing throughout the day, attended by H. M. Queen Elizabeth II and H. R. H. the Duke of Edinburgh; celebrations and commemorative observances were held across the country. United College officially became the University of Winnipeg. *July 3-6*, National convention of the New Democratic Party held in Toronto; T. C. Douglas returned as national leader by acclamation. *July 5*, H. M. Queen Elizabeth II invested Governor General Michener with the first ribbon and pendant star of the Order of

Canada; names of 35 Companions and 55 Medals of Service to be awarded were announced. H.M. Queen Elizabeth II unveiled the two stone plaques, outlining the history of the site, to be hung in the lobby of the National Arts Centre in Ottawa. Provincial premiers sworn to The Queen's Privy Council for Canada. *July 7*, Merger announced of St. Patrick's College, formerly a constituent of the University of Ottawa, with Carleton University. *July 10-22*, H. M. Queen Elizabeth, the Queen Mother, in Canada on Centennial tour of the Atlantic Provinces. *July 11*, Death in Montreal of Mr. Justice Guy Favreau, former federal Minister of Justice. *July 13*, Appointment announced of Malcolm F. Lindsay as Commissioner of the RCMP, succeeding George B. McClellan who retired Aug. 15 after 35 years of service. *July 16*, Racial violence in Newark, N. J., ended after five days; 24 deaths resulted. *July 17*, Interim report of the Economic Council of Canada on consumer affairs forms a blueprint for the organization of the Department of Consumer and Corporate Affairs. James E. Coyne, President of the Bank of Western Canada, unanimously voted out of that office by the Board of Directors; he remained a Director. *July 21*, Official dedication of the Gardiner Dam on the South Saskatchewan River near Elbow, Sask. *July 23-Aug. 6*, Pan-American Games, opened by H. R. H. the Duke of Edinburgh, held at Winnipeg; athletes from 28 nations participated; Canada won 92 medals, including 12 gold medals, second to the U.S. total of 227. Canada's Elaine Tanner set new world records in 100-metre and 200-metre backstroke events, Alfons Mayer in .22 calibre rifle shooting and Andrew Boychuk in the marathon. *July 23*, President de Gaulle of France arrived at Quebec to start a five-day visit to Canada; his public statements regarding Quebec status were rebuked by Mayor Drapeau of Montreal and declared unacceptable by Prime Minister Pearson; he returned to France after three days without making the scheduled visit to Ottawa. *July 26*, Sale announced of the liner *Queen Mary* by the Cunard Line to the City of Long Beach, California, for use as a maritime museum and hotel. *July 28*, Race rioting in Detroit subsided after six days; 36 dead.

August: *Aug. 15*, In Newfoundland, Premier Smallwood officially opened the \$62,000,000 hydro-electric project at Baie d'Espoir and the highway connecting the area with Grand Falls. In new trial, Mr. Justice Adrien Meunier of Montreal, former M.P., acquitted on perjury counts for which he was convicted in October 1964. *Aug. 16*, Death in Ottawa of Hon. Wishart McLea Robertson, former Speaker of the Senate. *Aug. 17-Sept. 22*, Strike of 5,400 members of the Seafarers' International Union of Canada against the Canadian Lake Carriers Association ended with the highest settlement ever won in Canada. *Aug. 19*, Ceremonies in Dieppe, France, marking the 25th anniversary of the Dieppe Raid, in which 3,500 of a force of 5,000 Canadians were casualties; Canadian delegation led by Associate Defence Minister Léo Cadieux. *Aug. 23*, The Anglican Church of Canada agreed to permit the remarriage of divorced persons in the Church. *Aug. 24*, Premier Robarts announced plans for the establishment of French-language secondary schools in Ontario. *Aug. 29*, Harold C. Banks arrested in New York on a charge of committing perjury in Ottawa in 1963 during a federal inquiry into violence on the Great Lakes; extradition proceedings begun by the Ontario Department of the Attorney General; refused by U.S. Secretary of State Rusk in March 1968. *Aug. 31*, Fiftieth anniversary of the establishment of the Canadian Press.

September: *Sept. 5*, A Czechoslovakian airliner with 69 persons aboard crashed near Gander International Airport, Nfld., with loss of 35 lives.

Sept. 5-9, National Progressive Conservative Convention held in Toronto; Premier Robert L. Stanfield of Nova Scotia elected leader, succeeding the Rt. Hon. John G. Diefenbaker. *Sept. 7*, First International Symposium on the Devonian System held at Calgary, Alta., attended by about 1,000 geologists from 37 countries; the \$2,500,000 Institute of Petroleum Sedimentary Geology of the Geological Survey of Canada was officially opened by Energy, Mines and Resources Minister Pépin. *Sept. 10*, U.S. spacecraft *Surveyor V* made soft landing on the moon. *Sept. 13*, Hon. Robert L. Stanfield resigned as Premier of Nova Scotia; Hon. G. I. Smith sworn in as Nova Scotia's 17th premier since Confederation. *Sept. 14*, Decision to proceed with the winding up of the affairs of the Bank of Western Canada taken at a special shareholders' meeting held in Winnipeg. *Sept. 15*, The Northwest Territories Government closed its offices in Ottawa; staff and office essentials were moved to Yellowknife, N.W.T., the new capital, for commencement of business on Sept. 18. *Sept. 17*, The fourth Annual Review of the Economic Council of Canada made public; increased government spending during the past five years cited as a major factor in the rise in the cost of living, and restraint by all levels of government urged. *Sept. 19*, Opening of the 22nd regular General Assembly of the UN; its first Communist President, Corneliu Manescu of Romania, elected. *Sept. 20*, H. A. Olson, M.P. for Medicine Hat, Alta., resigned from the Social Credit Party and applied for permission to sit in the Commons as a Liberal. *Sept. 21*, Appointment announced of Peter van Ginkel, Canadian baritone recently with the Metropolitan Opera Company, as affiliate artist at Waterloo Lutheran University—the first such appointment in Canada. *Sept. 22*, Charles Lynch, chief of Southam News Service, and Don Attfield, Ottawa Assignment Editor for CBC-TV news, suspended from membership in the Parliamentary Press Gallery for three weeks on grounds of unethical conduct in reporting off-the-record remarks made by Rt. Hon. John G. Diefenbaker at a gallery-sponsored dinner. *Sept. 27*, The Bank of Canada announced an increase in the bank rate from 4½ p.c. to 5 p.c. Maximum interest rate on National Housing Act home-ownership and rental loans increased to 8½ p.c., effective Oct. 1, in an attempt to draw more private lenders into the housing field. *Sept. 30*, Official opening of Great Canadian Oil Sands Ltd. \$235,000,000 plant for the extraction of oil from the Athabasca oil sands.

October: *Oct. 4*, Finance Minister Sharp in the House of Commons appealed to business and labour to join the Government in an effort to hold down costs and prices, the alternative being increased taxes. *Oct. 6*, Dr. W. T. Ross Flemington, former President of Mount Allison University in Sackville, N.B., and a Minister of the United Church of Canada, appointed ombudsman for New Brunswick. *Oct. 7*, Arctic lupines grown in the National Museum's herbarium from 10,000-year-old seeds found in Yukon Territory placed on display. *Oct. 10*, A Thanksgiving "hunger walk" in Ottawa, headed by Governor General Michener, inaugurated more than 20 such walks across Canada organized by the Centennial International Development Program to enlist Canadian assistance for developing nations. *Oct. 11*, Provincial election held in Saskatchewan; the Liberal Government of Premier Thatcher returned to power. Dr. W. B. Lewis, Vice-President of Atomic Energy of Canada, named one of three recipients of the 1967 Atoms for Peace award. The 6,000 Montreal Transportation Commission employees on strike for three weeks ordered back to work for 80 days by Quebec Superior Court Chief Justice Frédéric Dorion in a court order served on officers of the CNTU's five striking unions; bus service began Oct. 13. Governor General Michener, seven provincial premiers, and

P.C. leader Robert L. Stanfield awarded honorary Doctor of Laws degrees at McGill University Founder's Day Convocation. *Oct. 13*, Closing announced of the Dominion Steel and Coal Corporation mill at Sydney, N.S., effective Apr. 30, 1968. *Oct. 14*, The oldest and most complete pottery vessel ever found on the northwestern plains of North America recovered at excavations near Mortlach, Sask.; some artifacts date back as far as 465 B.C. *Oct. 15*, The Quebec Liberal Party strongly rejected separatism at its annual congress, and René Lévesque resigned from the Party to carry on his campaign for an independent Quebec. *Oct. 16*, Canada Council Molson awards for outstanding contributions to the arts, humanities and social sciences presented to Arthur Erickson of Vancouver, architect; Anne Hébert of Montreal, poet; and Marshall McLuhan of Toronto, scholar and communications expert. *Oct. 17*, Provincial election held in Ontario; Progressive Conservative Government under Premier Robarts returned to power for the eighth consecutive time but with a reduced majority. *Oct. 18*, A capsule parachuted from U.S.S.R. space vehicle to surface of Venus. *Oct. 19*, The Cunard Steamship Company, founded by Samuel Cunard of Halifax and closely linked with Canada for 127 years, announced the end of its Canadian passenger service and the sale of more ocean liners. *Oct. 20*, An agreement signed by the Quebec Association of Medical Specialists and the Quebec Government ended the two-and-a-half-month strike of radiologists. After a 44-day strike, the 160,000 members of United Auto Workers Union and the Ford Motor Company reached tentative agreement on a new contract to increase workers' pay and provide a form of guaranteed annual income. *Oct. 21*, Protest groups in Washington, D.C., and in major cities across Canada in organized demonstrations against the war in Viet-Nam. *Oct. 23*, Provincial election held in New Brunswick; Premier Robichaud's Liberal Government returned to power for the third successive time, but with a reduced majority. *Oct. 24*, Alderman Charlotte Whitton, former Mayor of Ottawa, ousted from City Council by a ruling of the Supreme Court of Ontario which upset a County Court ruling that had permitted her to retain her Council seat despite her legal action against the City; Dr. Whitton was re-elected at the by-election held Dec. 16 to fill the vacancy. Senator Alfred J. Brooks of New Brunswick resigned as Opposition leader in the Senate. Montreal's payment due to the Federal Government for Expo 67 deferred two years to help Mayor Drapeau with his plan to turn the Expo site into a permanent summer exhibition. *Oct. 29*, Expo 67 closed after 185 days; attendance totalled 50,306,648. *Oct. 30*, Guided by computers, two unmanned U.S.S.R. satellites docked in space and moved on together for 3½ hours.

November: *Nov. 1*, Dr. F. T. Rosser, President of Algonquin College, Ottawa, and former Vice-President of the National Research Council, awarded the Gold Medal of the Professional Institute of the Public Service of Canada. *Nov. 6*, 100th anniversary of the opening of the first session of the First Parliament of Canada. Hon. Robert L. Stanfield elected to the House of Commons in by-election held in Colchester-Hants riding, N.S. *Nov. 7*, The Supreme Court of Canada ruled that offshore mineral rights on the West Coast are the property of the Federal Government. Appointment announced of Chief John Charlie as a member of the Council of the Northwest Territories, the first Indian to hold such office. Disorderly demonstration outside the Soviet Embassy in Ottawa in protest against the celebration of the 50th anniversary of the Bolshevik Revolution. *Nov. 8*, Wage parity for 12,000 Canadian automotive workers with their U.S. counterparts by the signing of a tentative

three-year agreement between the United Auto Workers and the Chrysler Corporation. *Nov. 9*, Paul-Emile Cardinal Léger resigned as Archbishop of Montreal to do missionary work among lepers in Africa. U.S. satellite *Apollo IV*, the heaviest space vehicle yet developed, launched from Cape Kennedy and recovered in the Pacific under robot control. *Nov. 10-18*, Royal Agricultural Winter Fair held in Toronto; officially opened by H.R.H. the Duke of Edinburgh; Larry C. Hixt of Beiseker, Alta., won the world wheat championship for the third consecutive year. *Nov. 14*, Announcement by the Ontario Government of the plan to consolidate, by Jan. 1, 1969, the province's 1,500 school boards into 100 county-size boards which will finance their own operations by issuing separate tax bills to the public instead of requisitioning funds from municipal councils. *Nov. 15*, The new Museum of Science and Technology of the National Museums of Canada officially opened in Ottawa by Secretary of State Judy LaMarsh. *Nov. 16*, The CCGS *John A. Macdonald* completed its epic voyage from Montreal through the famous Northwest Passage and the Bering Strait to Vancouver and to Dartmouth, N.S., by way of the Panama Canal; this was the first sailing through the Passage since the *St. Roch* 25 years ago. *Nov. 17*, U.S. *Surveyor VI* landed on the moon, moved to another position on the surface and transmitted pictures showing the site of the first landing. *Nov. 18*, The British Government devalued the pound to \$2.40 in U.S. currency or \$2.57 in Canadian; 11 other countries followed suit. *Nov. 20*, The Bank of Canada raised the bank rate to 6 p.c. from 5 p.c. Robert B. Bryce, Deputy Minister of Finance, named to receive the 1967 award of the Federal Government for outstanding achievement in the Public Service. *Nov. 21-27*, Prime Minister and Mrs. Pearson visited Britain as guests of the British Government; the Prime Minister received an honorary degree from the University of London and the Freedom of the City of London. *Nov. 22*, Announcement that Dosco will operate the Sydney mill as a Nova Scotia Government agency until Apr. 30, 1968, and that the Government or its nominee will operate it for the following 12 months. Formal publication of the National Press Club's Centennial project—an anthology of the best of Canadian journalism *A Century of Reporting*. Donald M. Stephens, Chairman of Manitoba Hydro, awarded the Vanier Medal for significant contributions in public administration by the Institute of Public Administration of Canada, at Government House, Ottawa. *Nov. 23*, Death in Ottawa of Senator Alexander Baird of Newfoundland. *Nov. 24*, First investiture of 35 Companions of the Order of Canada and 55 Medals of Service of the Order of Canada took place at Government House in Ottawa. *Nov. 25*, Former Highways Minister Walter Weir elected Leader of the Manitoba Progressive Conservative Party and Premier-designate of the province. *Nov. 26-30*, Confederation of Tomorrow Conference of provincial Premiers held in Toronto on the invitation of Premier Robarts; this first major dialogue between political leaders of French and English Canada reached agreement on the need for change in Canada's economic and constitutional structures and laid the base for the federal-provincial conference to be held in 1968. *Nov. 27*, Official resignation of Hon. Duff Roblin as Premier of Manitoba; Hon. Walter Weir sworn in as Premier. The civic administration of Montreal announced its intention to run a permanent exhibition on the site of Expo 67. *Nov. 30*, A large gambling ring operating across Canada broken with the arrest of 18 persons in Montreal, Toronto and Calgary, culmination of a lengthy combined police operation. Finance Minister Sharp presented an austerity budget in the House of Commons; a 5-p.c. income tax surcharge and a 10-p.c. increase in federal taxes on liquor and tobacco were proposed.

December: *Dec. 2,* The Hamilton Tiger-Cats won the Grey Cup, defeating the Saskatchewan Roughriders in Ottawa by a score of 24-1. *Dec. 3,* Surgeons at Groote Schuur Hospital, Cape Town, headed by Dr. Christian Barnard, performed the first successful transplant of a human heart, replacing 55-year-old Louis Washkansky's heart with that of 25-year-old Denise Darvall; Washkansky died of pneumonia Dec. 21. *Dec. 5,* First volume of the Report of the Royal Commission on Bilingualism and Biculturalism made public. *Dec. 6,* The world's largest underground pedestrian passageway system officially opened in Montreal; it links Place Bonaventure with Place Ville Marie and Central Station and includes three miles of walkways through which to reach 10 office buildings, 240 shops, 4,000 parking spaces, 2,200 hotel rooms, 36 restaurants and four cinemas. *Dec. 7,* Death in Saint John, N.B., of former Senator and Government leader in the Senate Alfred J. Brooks, recently retired. Revenue Minister Benson announced cuts in Federal Government spending to effect a saving of \$1,200,000,000. *Dec. 8,* Death in Ottawa of Maj.-Gen. F. F. Worthington, who had a distinguished military career in two World Wars and was a dedicated exponent of armoured warfare. Prime Minister Pearson sent a message to UN Secretary-General U Thant indicating Canada's plans to observe the International Year for Human Rights. *Dec. 11,* Announcement of award of Canada Council Medals for 1967 to Frank Underhill and Wallace K. Ferguson, historians; Jean-Paul Lemieux, painter; and H. Northrop Frye, literary scholar. *Dec. 12,* Indian Affairs and Northern Development Minister Laing announced a new step in northern development in which the Federal Government joins a consortium of Canadian oil and mining companies for oil exploration in the Arctic. *Dec. 14,* Prime Minister Pearson announced his resignation as national leader of the Liberal Party, to take effect upon the selection of his successor at April national convention. *Dec. 15,* J. Alphonse Ouimet resigned as President of the Canadian Broadcasting Corporation. Raymond Denis, former M.P. and a key figure in 1964 government scandal, convicted of attempting to obstruct justice by offering a \$20,000 bribe and sentenced to two years in prison. *Dec. 17,* Death in Melbourne, Australia, of Prime Minister Harold Holt in a drowning accident. *Dec. 20,* Senator C. G. Power, Senator Thomas Vien and the late Senator Alfred J. Brooks honoured by their Senate colleagues on reaching their 50th year in Parliament. Disability pensions for war veterans and their widows, orphans and dependent parents increased by 15 p.c. *Dec. 21,* Finance Minister Sharp announced that the 10-cent, 25-cent, 50-cent and \$1 coins will be fabricated from Canadian nickel instead of the silver alloy previously used, effective during 1968. *Dec. 23,* Fifteen Companions of the Order of Canada and 43 Medals of Service named in the second awards list. Senator Ross Macdonald resigned from the Senate. *Dec. 26,* Death in Montreal of Maurice Rinfret, M.P., Assistant Deputy Speaker in the Commons. *Dec. 27,* In a Canadian Press poll of women editors, Hon. Judy LaMarsh chosen Canada's most newsworthy woman of the year for the third time; other choices were: in sports, Nancy Greene; in literature and art, Solange Chaput-Rolland; in music, Monique Leyrac; in stage, screen, radio and TV, Geneviève Bujold. Centennial gift of books, films and papers presented to the National Library by the Canadian Jewish community. Plans announced for a train-borne college for Canada's Indians, to begin travelling among the reserves of Eastern and Central Canada next July 1; organized and subsidized for the first year by the Company of Young Canadians. *Dec. 28,* Official opening in Toronto of 116-year-old St. Lawrence Hall, renovated as a Centennial project. *Dec. 29,* Criminal Code amendment limiting capital punishment to slayers of police

and prison guards for a five-year trial period came into effect. The new Ottawa Civic Centre opened. *Dec. 30,* Death in London, Eng., of Rt. Hon. Vincent Massey, former Canadian diplomat and first native-born Governor General of Canada; state funeral in Ottawa Jan. 4, 1968 and burial at Port Hope, Ont. *Dec. 31,* End of the four-year mandate of the Board of Trustees of the Maritime Transportation Unions, established under Judge René Lippé to bring order in the Great Lakes shipping industry. The end of Canada's Centennial Year marked on Parliament Hill with music, dancing and fireworks.

1968

January: *Jan. 1,* The first stage of the Kennedy Round agreements on tariff and trade came into effect. Interest rate ceiling on NHA mortgage loans increased to 8.625 p.c. from 8.25 p.c. *Jan. 2,* Canada's first indoor track and field stadium, built by the Kinsmen Club of Edmonton with city and provincial assistance, opened in Edmonton. *Jan. 5,* The Nova Scotia government's Sydney Steel Corporation (Sysco) took control of the Dosco operations four months ahead of schedule. *Jan. 8,* Canada pledged \$21,600,000 to the world food program for the years 1969 and 1970 at UN-FAO Conference, becoming the second largest contributor. *Jan. 9,* American Chemical Society award granted to Dr. Keith Ingold of NRC for outstanding work with compounds that prevent autoxidation. *Jan. 9-16,* Canadian figure skating championships held in Vancouver; senior women's title won by Karen Magnussen of North Vancouver, senior men's by Jay Humphrey of Toronto, senior dance title by Don Phillips and Joni Graham of Vancouver and senior pair's championship by Betty and John McKilligan of North Vancouver. *Jan. 18,* Appointment announced of Dr. Robert Glen, Assistant Deputy Minister of Agriculture, as Scientific Adviser to Commonwealth Secretary-General and also as Secretary to the Commonwealth Scientific Committee. Appointment announced of Pamela Ann McDougall of Ottawa as Ambassador to Poland. *Jan. 18-20,* Royal College of Physicians and Surgeons of Canada medals awarded to Dr. W. Robert Bruce of Toronto for work in the treatment of leukemia, and to Dr. George K. Wlodek of Montreal for investigation into the control and cure of ulcers. *Jan. 21,* Abandoned Dutch freighter *Ocean Sprinter* towed into St. John's harbour and claimed as salvage by Burin Peninsula fishermen. *Jan. 22,* Bank of Canada rate increased to 7 p.c. from 6 p.c. in a move to tighten the national money supply. Death in Quebec of Hon. René Tremblay, former Minister of Citizenship and Immigration. *Jan. 23,* Death in Ottawa of Dr. E. S. Archibald, Director, Experimental Farms Service, Canada Department of Agriculture, 1919-51. *Jan. 25,* Arrest at Rigaud, Que., of Charles F. Wilson, a participant in England's Great Train Robbery, more than three years after his escape from prison. *Jan. 30,* The new ensign of the Canadian Armed Forces presented to His Excellency Governor General Michener in a ceremony at Government House. *Jan. 31,* The Pacific island of Nauru became the world's newest and smallest island republic as Australia, Britain and New Zealand relinquished their UN mandate. Formation announced of a special committee made up of representatives of the Quebec, Ontario and Federal Governments to examine all aspects of a proposed national capital area in the Ottawa-Hull region.

February: *Feb. 1,* Bill extending the grounds for divorce in Canada given Royal Assent. *Feb. 2,* Reorganized local government system for Ottawa given final endorsement by the Ontario legislature; to include the County of Carleton, the Cities of

Ottawa and Eastview and the adjoining township of Cumberland, with a single mayor. *Feb. 3*, Death in Saskatoon of Violet McNaughton, first women's editor of *The Western Producer* and first President of the Women's Division of the Saskatchewan Grain Growers' Association. *Feb. 4*, The Massey Medal of the Royal Canadian Geographical Society presented to Col. Cyril H. Smith of Ottawa for his contribution to Canadian cartography. *Feb. 5*, Evidence of Norse settlement in Newfoundland about 1000 A.D. revealed by archaeologists. *Feb. 5-8*, Federal-provincial constitutional conference held in Ottawa; closed with official recognition of French language rights across Canada, creation of inter-government agencies to continue constitutional conferences and to study language rights, human rights, distribution of federal and provincial powers, reform of federal institutions, regional economic disparities, procedure for amending the constitution and co-ordination of all federal-provincial relations. *Feb. 13*, Death in Toronto of Portia White, acclaimed Canadian contralto. *Feb. 15*, Gold medal in giant slalom won by Nancy Greene of Rossland, B.C., in Olympic Games at Grenoble, France. The Gordie Task Force report on foreign investment tabled in the House of Commons; recommendations include a new national policy to protect Canadian sovereignty and independence, jeopardized by controls of foreign governments over Canadian subsidiaries. *Feb. 16*, Death in Toronto of Dr. Healey Willan, renowned Canadian composer of religious and classical music. *Feb. 19*, A boom in uranium prospecting in the Elliot Lake area of Ontario began; more than 1,000 stakers participated in the 100,000-acre area. *Feb. 19-23*, Crisis touched off in the House of Commons when the combined opposition rejected the Government's income tax Bill 84 to 82 and blocked Parliamentary business for three days. *Feb. 22*, Creation of a Quebec-owned television-radio network to be known as Radio-Québec announced by Premier Johnson, its purpose to be the promotion of education and culture. *Feb. 26*, Finance Minister Sharp announced the "repatriation" of \$426,000,000 in U.S. funds from money and gold on deposit at the International Monetary Fund to bolster the Canadian dollar. *Feb. 27*, A Centennial carpet bearing floral emblems of the provinces and the territories, donated by widows of former Canadian Governors General—Countess of Bessborough, Lady Tweedsmuir and Princess Alice, Countess of Athlone—and Earl Alexander, presented to Mrs. Lester B. Pearson at the National Gallery. Resignation of Gordon Churchill, M.P., from the Progressive Conservative caucus in protest against the caucus decision to capitulate in the debate on a motion of confidence in the Government. The 5-p.c. income tax surcharge, imposed since Jan. 1 in anticipation of the passage of the income tax Bill in the House of Commons, withdrawn by the Federal Government. *Feb. 28*, The House of Commons voted 138-119 to approve the Government's confidence motion and to maintain the Liberal Government in office.

March: Bertrand Lord Russell's collection of letters and papers purchased by McMaster University, Hamilton, Ont. *Mar. 4*, Prime Minister Pearson announced the suspension of diplomatic relations with Gabon following Gabon's invitation to Quebec to an international education conference, and later stated that Canada would break off relations with France if it followed the Gabonese example. *Mar. 5*, Report of the McRuer Royal Commission on Civil Rights tabled in the Ontario Legislature

recommended greater protection of the individual and control of the power of governments and police. *Mar. 7*, Finance Minister Sharp announced steps to strengthen the Canadian dollar; Canada exempted from restrictions by the U.S. on the flow of capital. External Affairs Minister Martin announced Canada's participation with the U.S. in the development of an airborne radar system to replace all or part of the Distant Early Warning radar stations in Northern Canada. *Mar. 11*, New version of the tax Bill defeated Feb. 19 introduced in the House of Commons; passed after amendment on Mar. 15. Hon. Walter L. Gordon, M.P., resigned as President of the Privy Council. *Mar. 16*, Report of federal inquiry into the administration of justice in the Hay River area of the Northwest Territories tabled in the House of Commons. Ralph B. Cowan, M.P. for York-Humber, removed from Liberal caucus for opposition to Government policy. Bank of Canada rate increased to 7½ p.c. from 7 p.c. *Mar. 16-17*, Finance Minister Sharp announced suspension of gold trading by Canadian banks and other dealers; restrictions removed Apr. 3. Bankers of the seven countries making up the London Gold Pool decided to continue to exchange gold at \$35 per oz. in settlement of international payments and leave it to find its own level on the private market; trading in the London gold market was closed until Apr. 1. *Mar. 21*, Disturbance on the Israel-Jordan border, the largest such incident since the Arab-Israeli war of June 1967; the UN Security Council met in emergency session. *Mar. 23*, International curling championship held at Montreal won by Canadian team skipped by Ron Northcott of Calgary. *Mar. 24*, The Eleanor Roosevelt Humanities Award presented to Mrs. Samuel Bronfman of Montreal, the first Canadian woman to be so honoured. *Mar. 26*, Nancy Greene of Rossland, B.C., announced her decision to retire from international competitive skiing. *Mar. 27*, Death in a plane crash near Moscow of Col. Yuri Gagarin, first man in space. *Mar. 30*, The Governments of Canada and the United States agreed to renew the NORAD agreement for five years when it expires on May 12, 1968, subject to review at any time during this period. *Mar. 31*, U.S. President Johnson announced a pause in air and sea action against North Viet-Nam as a first step toward ending the war; and also that he would neither seek nor accept nomination as a candidate for another term as President.

April: *Apr. 2*, Mayor Drapeau of Montreal announced the creation of a lottery-like scheme of raising money for city financial purposes, the first such scheme to be initiated in Canada. *Apr. 3*, The Fred W. Tanner Lecture Award of the Chicago branch of the U.S. Institute of Food Technology awarded to Dr. Frederick S. Thatcher, Food and Drug Directorate, Department of National Health and Welfare, Ottawa, the first Canadian to be so honoured. *Apr. 4*, Death in Memphis, Tennessee, of Negro civil rights leader and Nobel Peace Prize winner Dr. Martin Luther King, Jr., from an assassin's bullet; riots erupted in many cities throughout the U.S. as a result. *Apr. 4-6*, National Liberal convention held in Ottawa; Hon. Pierre Elliott Trudeau elected leader, succeeding Rt. Hon. Lester B. Pearson; assumed office as Prime Minister Apr. 20. *Apr. 5*, The Cunard liner *Queen Elizabeth* sold to U.S. interests, to be moored in the Delaware River and used as a conference centre and airport hotel. Nancy Greene of Rossland, B.C., successfully defended her World Cup championship in women's international skiing for the second straight year.

APPENDIX I

CONSTITUTION AND GOVERNMENT

Certain information given in Chapter II on Constitution and Government (closed off Sept. 30, 1967, except for a few items) is up-dated in this Appendix. Appointments to the Queen's Privy Council for Canada, the Cabinet and the Senate, as well as the appointment of the Lieutenant-Governor of New Brunswick, from Sept. 30, 1967 to early April 1968, are included in the Register of Official Appointments at pp. 1228-1229.

Page 75, Table 4

At the National Liberal Convention held Apr. 4-6, 1968, the Hon. Pierre Elliott Trudeau was elected leader of the Liberal Party and assumed office as Prime Minister of Canada on Apr. 20. Members of the Cabinet named Apr. 22, 1968 were:—

Prime Minister, Minister of Justice and Attorney General of Canada.....	Rt. Hon. Pierre Elliott TRUDEAU
Minister without Portfolio.....	Hon. Paul MARTIN
Minister of Transport.....	Hon. Paul T. HELLYER
Secretary of State for External Affairs.....	Hon. Mitchell SHARP
Minister of Public Works.....	Hon. George J. McLEATH
Minister of Indian Affairs and Northern Development.....	Hon. Arthur LAING
Minister of National Health and Welfare.....	Hon. Allan J. MacEACHEN
Minister of Fisheries.....	Hon. Hédard ROBICHAUD
Minister of Veterans Affairs.....	Hon. Roger TEILLET
Minister of Industry, Minister of Defence Production and Minister of Trade and Commerce.....	Hon. Charles M. DRURY
Minister of Forestry and Rural Development.....	Hon. Maurice SAUVÉ
President of the Treasury Board, Minister of Finance and Receiver General.....	Hon. Edgar J. BENSON
Minister of National Defence.....	Hon. Léo CADIEUX
Minister of Energy, Mines and Resources and Minister of Labour.....	Hon. Jean-Luc PÉPIN
Minister of Manpower and Immigration and Secretary of State of Canada.....	Hon. Jean MARCHAND
Minister of Agriculture.....	Hon. John J. GREENE
Postmaster General.....	Hon. Jean-Pierre CÔTÉ
Minister of Consumer and Corporate Affairs and Solicitor General.....	Hon. John N. TURNER
Minister of National Revenue.....	Hon. Jean CHRÉTIEN
Minister without Portfolio.....	Hon. Charles GRANGER
Minister without Portfolio.....	Hon. Bryce S. MACKASEY
Minister without Portfolio.....	Hon. Donald S. MACDONALD
Minister without Portfolio.....	Hon. John C. MUNRO
Minister without Portfolio.....	Hon. Gérard PELLETIER
Minister without Portfolio.....	Hon. Jack DAVIS (appointed Apr. 26, 1968)

Page 78, Table 6

The 27th Parliament was dissolved on Apr. 23, 1968.

Pages 83-88, Tables 10 and 11

By-elections held between Sept. 30, 1967 and Mar. 31, 1968 were as follows:—

<i>Electoral District</i>	<i>Date of By-election</i>	<i>New Member</i>
Bonavista-Twillingate, Nfld.....	Nov. 6, 1967	Charles Ronald GRANGER
Colchester-Hants, N.S.....	Nov. 6, 1967	Robert L. STANFIELD
Jasper-Edson, Alta.....	Nov. 6, 1967	Douglas M. CASTON

The seats for Matapédia-Matane, Que., Saint-Jacques, Que., Sherbrooke, Que., and Grey-Bruce, Ont., were vacant as at Mar. 31, 1968.

Pages 97-109

Certain provincial Ministries are listed here as at Mar. 31, 1968, because of changes made between June 30, 1967 and that date—those for Nova Scotia and Manitoba following the resignation of the respective Premiers and those for New Brunswick, Ontario and Saskatchewan following General Elections.

Seventeenth Ministry of Nova Scotia, as at Mar. 31, 1968

(Party standing at latest General Election, May 30, 1967:
40 Progressive Conservative and 6 Liberal)

<u>Office</u>	<u>Name</u>
Premier, Minister of Finance and Economics, and Chairman of the Nova Scotia Power Commission.....	Hon. G. I. SMITH
Attorney General and Minister of Public Health.....	Hon. R. A. DONAHOE
Minister of Public Works and Minister of Highways.....	Hon. S. T. PYKE
Minister of Lands and Forests and Minister of Fisheries.....	Hon. E. D. HALBURTON
Minister of Labour.....	Hon. T. J. MCKEUGH
Minister of Trade and Industry.....	Hon. W. S. KENNEDY JONES
Minister of Mines and Minister in Charge of the Liquor Control Act.....	Hon. D. M. SMITH
Minister without Portfolio.....	Hon. D. R. MACLEOD
Minister of Public Welfare and Provincial Secretary.....	Hon. J. M. HARDING
Minister of Municipal Affairs.....	Hon. D. C. MACNEIL
Minister of Agriculture and Marketing and Minister under the Water Act.....	Hon. I. W. AKERLEY
Minister of Education.....	Hon. G. J. DOUCET

Twenty-third Ministry of New Brunswick, as at Mar. 31, 1968

(Party standing at latest General Election, Oct. 23, 1967:
32 Liberal, 25 Progressive Conservative and one vacant)

<u>Office</u>	<u>Name</u>
Premier.....	Hon. Louis J. ROBICHAUD
Minister of Justice.....	Hon. Bernard A. JEAN
Minister of Finance.....	Hon. L. G. DESBRISAY
Provincial Secretary.....	Hon. Joseph E. LEBLANC
Minister of Public Works.....	Hon. Raymond D. DOUCETT
Minister of Highways.....	Hon. André F. RICHARD
Minister of Agriculture and Rural Development.....	Hon. J. Adrien LÉVESQUE
Minister of Natural Resources.....	Hon. William R. DUFFIE
Minister of Health and Welfare.....	Hon. L. Norbert THÉRIAULT
Minister of Labour.....	Hon. H. H. WILLIAMSON
Minister of Education.....	Hon. W. W. MELDRUM
Minister of Municipal Affairs.....	Hon. B. Fernand NADEAU
Minister of Economic Growth.....	Hon. Robert J. HIGGINS
Minister of Fisheries.....	Hon. J. Ernest RICHARD
Minister of Youth.....	Hon. Joffre DAIGLE
Chairman, New Brunswick Electric Power Commission.....	Hon. H. Graham CROCKER

Seventeenth Ministry of Ontario, as at Mar. 31, 1968

(Party standing at latest General Election, Oct. 17, 1967:
69 Progressive Conservative, 28 Liberal and 20 New Democratic Party)

<u>Office</u>	<u>Name</u>
Premier and President of the Council.....	Hon. John Parmenter ROBERTS
Minister of Public Works.....	Hon. Thomas Ray CONNELL
Minister of Health.....	Hon. Matthew Bulloch DYMOND
Minister of Social and Family Services.....	Hon. John YAREMKO
Minister of Financial and Commercial Affairs.....	Hon. Henry Leslie ROWNTREE
Minister of Reform Institutions.....	Hon. Allan GROSSMAN
Minister of Agriculture and Food.....	Hon. William Acheson STEWART
Treasurer.....	Hon. Charles Steel MACNAUGHTON
Minister of Transport.....	Hon. Irwin HASKETT
Minister of Tourism and Information.....	Hon. James Alexander Charles AULD
Minister of Education, and Minister of University Affairs.....	Hon. William Grenville DAVIS
Minister of Energy and Resources Management.....	Hon. John Richard SIMONETT
Minister of Economics and Development.....	Hon. Stanley John RANDALL
Minister of Justice and Attorney General.....	Hon. Arthur Allison WISHART
Minister of Highways.....	Hon. George Ellis GOMME
Minister of Lands and Forests.....	Hon. René BRUNELLE

Seventeenth Ministry of Ontario, as at Mar. 31, 1968—concluded

<u>Office</u>	<u>Name</u>
Minister of Labour.....	Hon. Dalton Arthur BALES
Provincial Secretary and Minister of Citizenship.....	Hon. Robert Stanley WELCH
Minister without Portfolio.....	Hon. Thomas Leonard WELLS
Minister of Municipal Affairs.....	Hon. William Darcy McKEOUGH
Minister without Portfolio.....	Hon. Fernand GUINDON
Minister of Mines.....	Hon. Allan Frederick LAWRENCE

Fifteenth Ministry of Manitoba, as at Mar. 31, 1968

(Party standing at latest General Election, June 23, 1966:

31 Progressive Conservative, 14 Liberal, 11 New Democratic Party and 1 Social Credit)

<u>Office</u>	<u>Name</u>
Premier, President of the Council, Minister of Dominion-Provincial Relations, and Minister charged with the administration of the Manitoba Development Authority Act.....	Hon. Walter WEIR
Provincial Treasurer, and Minister charged with the administration of The Insurance Act.....	Hon. Edward Gurney Vaux EVANS
Provincial Secretary, Minister of Public Works, Minister of Public Utilities and Minister in all other offices to which, and under all statutes under which, he has been appointed or designated as a Minister.....	Hon. Stewart E. McLEAN
Attorney-General, Minister of Tourism and Recreation, and Northern Commissioner.....	Hon. Sterling Rufus LYON
Minister of Education.....	Hon. George JOHNSON
Minister of Welfare.....	Hon. J. B. CARROLL
Minister of Health.....	Hon. Charles H. WITNEY
Minister of Labour.....	Hon. Obie BAZLEY
Minister of Urban Development and Municipal Affairs.....	Hon. Thelma FORBES
Minister of Industry and Commerce.....	Hon. Sidney SPIVAK
Minister of Agriculture, and Acting Minister of Highways.....	Hon. Harry ENNS
Minister of Mines and Natural Resources.....	Hon. D. W. CRAIK

Tenth Ministry of Saskatchewan, as at Mar. 31, 1968

(Party standing at latest General Election, Oct. 11, 1967:

35 Liberal and 24 New Democratic Party)

<u>Office</u>	<u>Name</u>
Premier, President of the Executive Council and Minister of Industry and Commerce.....	Hon. W. R. THATCHER
Minister of Agriculture.....	Hon. D. T. McFARLANE
Minister of Public Health.....	Hon. G. B. GRANT
Attorney General and Provincial Secretary.....	Hon. D. V. HEALD
Minister of Mineral Resources and Minister of Telephones.....	Hon. A. C. CAMERON
Minister of Education.....	Hon. J. C. McISAAC
Minister of Highways and Transportation.....	Hon. D. BOLDT
Minister of Welfare.....	Hon. C. P. MacDonald
Minister of Municipal Affairs.....	Hon. C. L. B. ESTEY
Minister of Labour and Minister of Co-operation and Co-operative Development.....	Hon. L. P. CODERRE
Minister of Public Works.....	Hon. Allan GUY
Provincial Treasurer.....	Hon. D. G. STEUART
Minister of Natural Resources.....	Hon. J. R. BARRIE

Pages 127-149

There were several revisions to the list of Departments, Boards and Commissions between Sept. 30, 1967 and Mar. 31, 1968, all of which have been incorporated in the Government Organization Chart facing p. 128. The major changes include the re-naming of the Department of the Registrar General to the Department of Consumer and Corporate Affairs, the establishment of the Canadian Radio-Television Commission replacing the Board of Broadcast Governors and the Canadian Broadcasting Corporation, and the integration of the National Museums of Canada (the Museum of Natural History, the Museum of Human History, the Museum of Science and Technology and the National Gallery of Canada) under a newly formed Board of Trustees.

APPENDIX II

POPULATION

Page 211

This Appendix contains limited statistics on households and families recorded at the 1966 Census; more detailed information on this subject may be obtained from 1966 Census reports. A household, as defined in the census, consists of a person or a group of persons occupying one dwelling and a dwelling is defined as a structurally separate set of living quarters with a private entrance either from outside or from a common hall, lobby, vestibule or stairway inside. Every person is a member of some household and the number of households equals the number of occupied dwellings.

The following tables show the number of households and persons per household, the number of families and persons per family and the number of children living at home in different age groups, all classified by province.

Households and Persons per Household, by Province, Census Years 1956, 1961 and 1966

Province or Territory	Households			Average Persons per Household		
	1956	1961	1966	1956	1961	1966
	No.	No.	No.	No.	No.	No.
Newfoundland.....	78,808	87,940	96,632	5.1	5.0	5.0
Prince Edward Island.....	22,682	23,942	25,360	4.2	4.2	4.2
Nova Scotia.....	162,854	175,341	185,245	4.1	4.0	4.0
New Brunswick.....	120,475	132,715	141,761	4.5	4.4	4.2
Quebec.....	1,001,264	1,191,469	1,389,115	4.4	4.2	4.0
Ontario.....	1,392,491	1,640,881	1,876,545	3.8	3.7	3.3
Manitoba.....	217,964	239,754	259,280	3.7	3.7	3.6
Saskatchewan.....	233,664	245,424	260,822	3.6	3.6	3.6
Alberta.....	294,047	349,816	393,707	3.7	3.7	3.6
British Columbia.....	392,403	459,534	543,075	3.4	3.4	3.6
Yukon and Northwest Territories.....	6,994	7,920	8,931	3.8	4.2	4.3
Canada.....	3,923,646	4,554,736	5,180,473	3.9	3.9	3.7

Families and Persons per Family, by Province, Census Years 1956, 1961 and 1966

Province or Territory	Families			Average Persons per Family		
	1956	1961	1966	1956	1961	1966
	No.	No.	No.	No.	No.	No.
Newfoundland.....	82,128	89,267	97,011	4.6	4.7	4.6
Prince Edward Island.....	21,153	21,969	22,728	4.1	4.2	4.2
Nova Scotia.....	154,243	161,894	166,237	3.9	4.0	4.0
New Brunswick.....	116,623	124,653	129,307	4.2	4.3	4.3
Quebec.....	970,414	1,103,822	1,229,301	4.2	4.2	4.2
Ontario.....	1,342,572	1,511,478	1,657,933	3.5	3.6	3.7
Manitoba.....	204,414	215,831	222,735	3.6	3.7	3.8
Saskatchewan.....	205,135	211,776	216,674	3.8	3.8	3.9
Alberta.....	262,922	305,671	331,153	3.7	3.8	3.9
British Columbia.....	346,003	394,023	445,297	3.4	3.6	3.6
Yukon and Northwest Territories.....	5,893	7,060	7,885	4.1	4.3	4.5
Canada.....	3,711,500	4,147,444	4,526,266	3.8	3.9	3.9

Children Living at Home classified by Age Group and by Province, Census 1966

Province or Territory	Under 6 Years	6-14 Years	15-18 Years	19-24 Years	Total Children Living at Home
	No.	No.	No.	No.	No.
Newfoundland.....	81,175	115,328	39,942	19,647	256,092
Prince Edward Island.....	15,141	22,101	8,359	4,270	49,871
Nova Scotia.....	101,646	149,024	53,828	28,521	333,019
New Brunswick.....	86,587	131,907	48,425	25,061	291,980
Quebec.....	753,573	1,150,157	425,237	317,939	2,646,906
Ontario.....	894,669	1,282,401	438,098	255,591	2,870,759
Manitoba.....	122,091	180,586	64,218	35,428	402,323
Saskatchewan.....	127,602	188,243	64,613	27,757	408,215
Alberta.....	206,732	295,528	92,551	43,078	637,889
British Columbia.....	224,892	338,946	115,014	60,309	739,161
Yukon and Northwest Territories.....	8,369	8,376	2,184	1,101	20,030
Canada.....	2,622,477	3,862,597	1,352,469	818,702	8,656,245

INDEX

NOTE.—This Index does not include references to Special Articles published in previous editions of the Year Book. These are listed at pp. 1224-1228.

	PAGE		PAGE
Aborigines—see "Indians" and "Eskimos".		Alberta, admission to Confederation.....	70
Acadian forest region.....	538, 539	—agricultural colleges and schools.....	493
Accidents, motor vehicle.....	270, 275, 819	—land.....	466
—on railways.....	799	—produce, index numbers of.....	498, 521
Accounts, national.....	1057-69	—services.....	491-2
Acts, federal, 1967-68.....	1238-41	Agriculture, Dept. of.....	491-2
—administered by Federal Depts.....	149-54	—allowances for blind persons.....	335
Adult education.....	361-2 , 369, 370, 371, 381-2 , 391	—for disabled persons.....	336
—offenders and convictions.....	438-48	—family.....	331
Advertising agencies.....	903-4	—mothers.....	340
Aerodromes.....	850	—youth.....	332
Aeronautical navigation, radio aids to.....	850-1, 876	—area.....	7 , 30, 466
Africa Assistance Plan, Special Common-wealth.....	173, 185-6	—births and birth rates.....	251 , 257, 258, 264
Age of adult offenders.....	441, 446	—capital and repair expenditures.....	729
—of immigrants.....	237	—construction industry.....	733, 734, 736
—of parents.....	261-2	—co-operative associations.....	917
—of population.....	205-6	—deaths and death rates.....	251 , 268, 274
Aged, services for.....	329-30, 334-5, 340-1	—diseases, notifiable.....	323
Agency corporations, Crown.....	141 , 157, 163	—divorces.....	285
Agricultural agreements, federal-provincial.....	469-72, 1042	—earnings, average in industry.....	766, 769
—colleges and schools.....	493	—education—see "Education"	
—co-operatives.....	915-8	—electric power.....	660, 663, 666 , 672-3 , 674, 676-80
—irrigation and land conservation.....	469-72	—employment, index numbers of.....	764, 766
—land, areas of.....	466	—and payrolls.....	164
—prices.....	499, 516, 517, 518, 520-2 , 908-9	—farm income.....	494, 497
—production.....	497-502 , 507-19 , 534-6, 911	—loans approved.....	484, 486
—Products Co-operative Marketing Act.....	921-2	—statistics, Census.....	526-33
—exports of.....	969	—field crops.....	499-502
—grading and protection of.....	480-1	—fisheries administration.....	646
—imports of.....	972	—fishery products—see "Fisheries"	
—marketing of.....	906-13, 918-23	—forest resources—see "Forest"	
—and Rural Development Act.....	470, 471-2	—forested area.....	466, 540, 541
—research and experimentation.....	404-5, 410-1, 432, 478-81	—forestry program.....	544, 561
—schools and colleges.....	493	—government.....	96-7, 107-8
—Stabilization Board.....	140, 142, 481-2	—debt.....	1051, 1052
—statistics.....	493-536	—insurance.....	1026-7, 1153-4
—international.....	534-6	—revenue and expenditure.....	1026-7, 1046-50
—of the Census.....	526-33	—health services.....	296-8, 304-11, 324, 325
—trends and highlights, 1966 and 1967.....	473-7	—hospitals.....	296-8, 313-4, 316-7, 319
Agriculture.....	473-536	—immigrants—see "Population"	
—Dept. of, Acts administered by.....	149 , 481-3, 485, 486-7, 918-23	—irrigation and land conservation.....	470
—conditional grants and shared-cost pro-grams of.....	1042	—judicial convictions—see "Criminal and judicial"	
—expenditure <i>re</i>	432, 1030	—labour legislation.....	751-5
—functions of.....	127 , 432, 469-70, 471, 478-81	—lakes, principal.....	13
—farm loans.....	352-3, 483-4 , 485	—libraries.....	398, 399
—income.....	493-7	—Lieutenant-Governor.....	107
—Federal Government in relation to.....	469-72, 477-87	—livestock.....	505, 913
—field crops, production and values of.....	498-502	—manufactures.....	705, 711
—persons employed in.....	756, 759	—marriages.....	251 , 282
—provincial governments in relation to.....	487-93	—mineral production—see "Mineral" and "Minerals"	
Air agreements, international.....	177, 842-3	—mining, provincial aid to.....	617
—Canada.....	141, 142 , 844-5	—laws—see "Mining"	
—Force, Royal Canadian, equivalent ranks.....	1161	—motor vehicle and traffic regulations.....	805-9
—operations and training.....	1166-7	—mountains and other heights.....	17
—rates of pay and allowances.....	1158-9	—municipalities.....	119, 120
—Lines, Canadian Pacific.....	845-6	—old age assistance.....	335
—foreign.....	848-9, 853	—security.....	303
—independent.....	846-8	—parks.....	30, 33-4, 41
—mail.....	845, 852, 887	—pipelines.....	855-9
—personnel.....	853, 855	—population—see "Population"	
—services, current.....	844-52	—representation in the House of Commons.....	82, 87
—financial statistics of.....	845, 853, 854-5	—in the Senate.....	80, 81
—traffic.....	844-8, 852-3	—Research Council of.....	424, 617
—control.....	850-1	—roads and highways.....	809, 810
—Transport Board—see "Canadian Transport Commission"		—Royal Commissions.....	122
—civil.....	842-55	—savings institutions.....	1127
Aircraft landing areas.....	849-50	—schools—see "Education"	
—registered.....	855	—unemployment assistance.....	334
Airfields, military.....	850	—insurance benefits.....	784, 785
Airport activity.....	851-2	—water power of—see "Water Power"	
—licences in force.....	855	—welfare services.....	339-42
		—workmen's compensation.....	786-7
		Alcoholic beverages, control and sale of.....	925-8
		—taxes on.....	1017-8, 1020, 1025

	PAGE		PAGE
Allowances for blind persons.....	335	Aviation, civil, control of.....	793, 854
— for disabled persons.....	336	— finances.....	845, 853, 854-5
— Canadian Forces.....	1161	— ground facilities.....	849-50
— family.....	330-1	— personnel.....	853, 855
— and indemnities to members of the Senate and House of Commons.....	88-9	— radio aids to.....	850-1, 854, 876
— mothers.....	340	— traffic.....	844-8, 852-3
— veterans.....	348-9	— weather services.....	63-4, 849, 875
— youth.....	151, 331-2		
Aluminum, production of.....	501	Balance of international payments.....	1079-85
Ambassadors, Canadian, abroad.....	166-70	Bank of Canada.....	142, 1111-6
— foreign, in Canada.....	170-2	— Act and its amendments.....	1111-6
American Federation of Labor.....	788, 789	— liabilities and assets.....	1114-5
Animal Life in Canada Today.....	47-60	— notes.....	1115, 1116-7
— products, consumption of.....	524-5	— reserves.....	1123
Animals, farm, numbers and values of.....	505	— deposits.....	1115, 1119, 1123-4
— marketing of.....	522, 912-3	— Industrial Development.....	147, 1115-6
Annual holidays, regulation of.....	752-3 , 754, 778-9	— Post Office Savings.....	1126
— Vacations Act.....	151	Bankruptcies and commercial failures.....	933-6
Annuities, Government.....	1156	Bankruptcy Act.....	95 , 933-4
Anti-discrimination laws.....	753 , 754	Banks, chartered.....	1119-26
Apiculture.....	517-8	— assets and liabilities.....	1122-3
Appalachian Region.....	2-3	— branches of.....	1120-2
Appeal Board, Tax.....	95-6, 138	— cheque payments.....	1125-6
Appeals in criminal cases.....	448	— deposits.....	1119, 1123-4
Apples, production and value of.....	513	— financial statistics of.....	1122-5
Appointments, diplomatic, 1967-68.....	1229-30	— legislation re.....	1119-20
— official, register of 1967-68.....	1228-36	— note circulation of.....	1116-7
Apprenticeship training.....	363, 364	Barbados, tariff arrangements with.....	992
Archaeology in Canada.....	20-9	— trade with—see "Trade by country".	
Archives, Public.....	136 , 152, 1031	Barley, acreage, production and value of.....	499, 500, 502
Area of Canada and provinces.....	7 , 29-30, 466	— farm income from.....	495
— Development Program.....	721	— international statistics of.....	535-6
— land, agricultural and forested.....	465-6	— prices of.....	499, 521, 908
— by tenure.....	29-30	— receipts and shipments of.....	910
Areas and elevations of principal lakes.....	12-3	— stocks of.....	503
— and depths of Great Lakes.....	11	— supply and disposition of.....	908, 909
— and populations of countries of the world.....	221-6	Beans, production and value of.....	501
— of principal islands.....	15-6	Beaver pelts, number and value of.....	651
Argentina, tariff arrangements with.....	994	Beck, consumption of.....	523, 524
— trade with—see "Trade by country".		— retail prices of.....	941
Armed Forces—see "Canadian Forces".		Beekeeping industry.....	517-8
Army, Canadian, cadets.....	1167-8	Beet sugar, shipments of.....	518
— equivalent ranks.....	1161	Beets, sugar, production and value of.....	502, 518
— operations and training.....	1164-5 , 1168-9	Belgium and Luxembourg, tariff arrangements with.....	994
— rates of pay and allowances.....	1158-61	— trade with—see "Trade by country".	
Arsenals Limited, Canadian.....	141, 143	Bermuda, tariff arrangements with.....	992
Art and education.....	383-90	— trade with—see "Trade by country".	
— schools, galleries and organizations.....	383-7	Beverages, alcoholic, control and sale of.....	925-8
Asbestos production.....	568, 569, 578, 593-4	— consumption of.....	524
Assets abroad, Canadian.....	1090-1	Bill of Rights Act, Canadian.....	68, 151, 436
— chartered bank.....	1122-3	Birds, protection of migratory.....	46, 47
— Federal Government.....	1031-2	Birthplaces of adult offenders.....	441
Assistance Fund, Veterans.....	350	— of immigrants.....	234-5
— old age.....	334-5	— of population.....	209
— Plan, Canada.....	332-3	Births and birth rates.....	250-65 , 290
— unemployment.....	333-4	— in hospitals.....	257
Astronomy, research in.....	420-1	— in urban centres.....	252-4 , 258
Atlantic Development Board.....	140, 142, 470, 1104-7	— illegitimate.....	258 , 262
Atomic Energy Agency, International.....	175, 179	— multiple.....	258-9
— Control Board.....	140, 142, 1030	— sex of.....	256-7
— of Canada Limited.....	141, 142 , 411-6	— stillbirths.....	259, 263-5
— research.....	411-6 , 432	Blind persons, allowances for.....	335
Auditor General's Office.....	127, 128	— education for.....	369, 370
— Act administered by.....	149	Board, Agricultural Stabilization.....	140, 142, 481-2
— expenditure re.....	1030	— Atlantic Development.....	140, 142, 470, 1104-7
Australia, tariff arrangements with.....	992	— Atomic Energy Control.....	140, 142 , 1030
— trade with—see "Trade by country".		— of Broadcast Governors.....	128 , 868, 879 , 1030
Austria, tariff arrangements with.....	994	— Canada Labour Relations.....	750
— trade with—see "Trade by country".		— Canadian Livestock Feed.....	141, 144 , 487
Automobile accidents.....	270, 275, 819	— Wheat.....	144 , 493, 494, 919-20
— insurance.....	1150	— Defence Research.....	134, 432, 1170-1
— Saskatchewan government.....	1153	— Dominion Coal.....	140, 146 , 611-3
Automobiles, laws and regulations re.....	805-9	— Eastern Rockies Forest Conservation.....	146
— new, apparent supply of.....	813-4	— Fisheries Prices Support.....	140, 147 , 638
— sales of.....	896	— Research.....	131, 636-8
— registration of.....	812-3	— of Grain Commissioners.....	128, 918-9
— revenue from.....	814-5	— Municipal Development and Loan.....	140
Automotive program (Canada-United States)	719, 721-2	— National Energy.....	134 , 794, 928-9
Aviation, civil, administration and policy.....	842-4	— Film.....	134 , 371, 394 , 1030

PAGE

Board, National Harbours	141, 147-8, 826-7, 839, 841
— Parole	135, 455-6
— Permanent Joint, on Defence	1158
— Tariff	138
— Tax Appeal	95-6, 138
— of Transport Commissioners—see "Canadian Transport Commission"	
— Treasury	123-7, 139
— War Veterans Allowance	139, 348
Bolivia, tariff arrangements with	994
— trade with—see "Trade by country"	
Bond market	1135-7
Books about Canada	1174-90
Boreal forest region	538
Boundaries of Canada	6
Bounties and subventions, coal	612, 932
Brazil, tariff arrangements with	994
— trade with—see "Trade by country"	
Bridges, construction expenditures	732, 734
Britain, tariff arrangements with	992
— trade with	653, 958-60, 964, 967, 969-75, 978-81
British Columbia, admission to Confederation	70
— agricultural colleges	493
— land	466
— produce, index numbers of	498, 521
— services	492-3
— Agriculture, Dept. of	492-3
— allowances for blind persons	335
— for disabled persons	336
— family	331
— mothers	340
— youth	332
— area	7, 30, 466
— births and birth rates	251, 257, 258, 264
— capital and repair expenditures	729
— construction industry	733, 734, 736
— co-operative associations	917
— deaths and death rates	251, 268, 274
— diseases, notifiable	323
— divorces	285
— earnings, average in industry	766, 769
— education—see "Education"	
— electric power, 660, 663, 666, 673, 674, 676-80, 687-8	
— employment, index numbers of	764, 766
— and payrolls	164
— farm income	494, 497
— loans approved	484, 486
— statistics, Census	526-33
— field crops	499-502
— fisheries administration	646-7
— fishery products—see "Fish"	
— forest resources—see "Forest"	
— forested area	466, 540, 541
— forestry program	544, 561-2
— government	96-7, 108-9
— debt	1051, 1052
— revenue and expenditure	1026-7, 1046-50
— health services	296-8, 304-11, 324, 325
— hospitals	296-8, 313-4, 316-7, 319
— Hydro and Power Authority	673, 687-8
— immigrants—see "Population"	
— irrigation and land conservation	470-1
— judicial convictions—see "Criminal and judicial"	
— labour legislation	751-5
— lakes, principal	13
— libraries	398, 399
— Lieutenant-Governor	108
— livestock	505, 913
— manufactures	705, 711-2
— marriages	251, 282
— mineral production—see "Mineral" and "Minerals"	
— mining, provincial aid to	617
— laws of—see "Mining"	
— motor vehicle and traffic regulations	805-9
— mountains and other heights	17-8
— municipalities	119-21
— old age assistance	335
— security	330
— parks	30, 34, 35, 41-2

PAGE

British Columbia, population—see "Population"	
— representation in the House of Commons	82, 87-8
— in the Senate	80, 81
— Research Council	424
— roads and highways	809, 810
— Royal Commission	122
— schools—see "Education"	
— unemployment assistance	334
— insurance benefits	784, 785
— water power of—see "Water Power"	
— welfare services	339-42
— workmen's compensation	755, 786-7
British Honduras, tariff arrangements with	992
— trade with—see "Trade by country"	
— North America Act, 66-71, 76, 78-9, 81-2, 94, 96, 116, 434-5, 477, 932	
— preferential tariff	990, 992-3
— Broadcast Governors, Board of	128, 868, 879, 1030
— Broadcasting Act, Canadian	868, 879
— Agreement, North American Regional	868, 873
— Corporation, Canadian	141, 143, 391-4, 868, 878-86, 1030
— radio and television	391-4, 878-86
— Buckwheat, acreage, production and value of	501
— Budget, Federal Government	124-5
— Building construction	730-1, 741-2
— Equipment, Accessories and Materials Program (BEAM)	719-20
— government aid to house	352-3, 483, 737-40, 741, 742-5
— permits issued	735-6
— research	407, 740
Bulgaria, tariff arrangements with	994
— trade with—see "Trade by country"	
Bullion and coinage issued	1118
Bureau of Statistics, Dominion	130
— publications	1192
Burma, tariff arrangements with	994
— trade with—see "Trade by country"	
Buses, passenger	817-8
Business colleges	369, 370, 371, 381
— failures	933-6
Butter, domestic disappearance of	512, 523
— production of	520
By-elections since 27th General Election	88, 1249
Cabinet, federal	73-5, 88-9, 1249
Cables landed in Canada	872
Calves, marketed	912-3
— prices of	522
— slaughtered at inspected plants	506
Canada, Archaeology in	20-9
— Assistance Plan	332-3
— and Colombo Plan	184-5
— and Commonwealth relations, 1966-67	172-3, 184-6
— and International Labour Organization	175, 176
— and North Atlantic Treaty Organization	179-80, 1158, 1162, 1164, 1166, 1172
— and UNESCO	175, 177, 371, 396
— and the United Nations	174-9, 371, 396
— area of	7, 30, 466
— chronological history of	1242-8
— constitution and government of	66-188, 1249
— Council	142, 395-6, 426
— Deposit Insurance Corporation	141, 143
— Emergency Measures Organization	128, 1173
— Fair Employment Practices Act	750
— Labour Relations Board	750
— (Safety) Code	751
— (Standards) Code	750-1
— Land Inventory	472
— Pension Plan	151, 326-9
— Shipping Act	152, 153, 820, 837, 873-4
— Student Loans Act	150, 365-6
— Water Conservation Assistance Act	149, 470-1
Canada's external relations	164-88
— international trade after the Kennedy Round of trade negotiations	946-54
— activities, 1966-67	172-88
— investment position	1085-91

	PAGE		PAGE
Canada's international status.....	164-6	Central Mortgage and Housing Corporation	141, 145 , 737-45
— mineral industry, historical and current.....	565-609	Cereals, consumption of.....	523
Canadian Army.....1158-61, 1164-5, 1168-9		Ceylon, tariff arrangements with.....	992
— Arsenal Limited.....	141, 143	— trade with—see "Trade by country".	
— balance of international payments.....	1079-85	Chartered banks—see "Banks, chartered".	
— Bill of Rights Act.....68, 151, 436		Charts and maps, list of.....	xv
— Broadcasting Act.....868, 879		Cheese, domestic disappearance of.....	512, 524
— Corporation.....141, 143 , 391-4 , 868, 878-86 , 1030		— production of.....	391-4
— educational functions of.....	883-4	Chemicals and chemical products, exports of..	970
— international service.....	883-4	— imports of.....	973
— citizenship.....137, 153, 242-8		— industries, activity of.....701, 706-12	
— Act.....153, 242-4		Cheque payments.....	1125-6
— statistics.....	244-8	Chief Electoral Officer.....	135, 1030
— Coast Guard.....	836	— Justice of Canada.....	95
— Commercial Corporation.....	141, 143 , 1172	Child welfare services, provincial.....	341-2
— Conference on Aging.....	292	Children of War Dead (Education Assistance)	
— Constitution, amendment of the.....	69	— Act.....	350
— Corporation for the 1967 World Exhibition.....	144	Children's Fund, United Nations (UNICEF).....	174, 175
— Criminal Code.....151, 434-8		Chile, tariff arrangements with.....	994
— law and procedure.....	434-8	— trade with—see "Trade by country".	
— Dairy Commission.....	141, 143 , 482	China, tariff arrangements with.....	994
— exchange rates.....	1133-5	— trade with—see "Trade by country".	
— external aid programs.....	184-8	Chinchilla pets, number and value of.....	648-9, 652
— Farm Loan Act.....	485	Chronology.....	1242-8
— Forces, command structure of.....	1162-3	Cigarettes, consumption of.....	515
— Headquarters (CFHQ).....	1157	— and cigars, excise tariff.....	1018, 1038-9
— liaison abroad.....	169, 1158	Cities, average earnings in.....	766, 769
— operations and training of.....	1163-9	— births in.....	252-4
— rates of pay and allowances.....	1158-61	— building permits in.....	735-6
— services and staff training colleges.....	1168-9	— cheques cashed at clearing-house centres.....	1126
— Government Printing Bureau.....	128	— consumer price indexes for regional.....	941-2
— Travel Bureau.....	989	— deaths in.....	252-4
— Labour Congress.....788, 789		— distances between.....	8
— life tables.....	285-9	— employment index numbers.....	765, 766
— Livestock Feed Board.....	141, 144 , 487	— housing development in.....	739, 745
— Maritime Commission—see "Canadian		— infant mortality in.....	252-4
Transport Commission".		— marriages in.....	252-4
— Mint, Royal.....131, 1028, 1118		— populations of.....195-204	
— National Railways—see "Railways".		— wage rates in.....754, 775-7	
— Steamships Limited.....	141	Citizenship, Canadian.....137, 153, 242-8	
— Overseas Telecommunication Corporation		— Act.....153, 242-4	
141, 144 , 871-2		— certificates issued.....	245
— Pacific Air Lines Limited.....	845-6	— characteristics of persons granted.....	245-8
— Railway.....794, 800, 802		— loss of.....	244
— Patents and Development Limited.....	141, 144	— statistics.....	244-8
— Penitentiary Service.....	128	— of immigrant arrivals.....	236
— Pension Commission.....	129, 347	Civil air transport.....	842-55
— Press.....889-93		— aviation statistics.....	852-5
— Radio-Television Commission.....	879	— defence.....1028, 1173	
— representation abroad, diplomatic.....	166-70	— emergency planning.....	1173
— Services Colleges.....	1168-9	— Service Commission—see "Public Service	
— Shield.....	2	Commission".	
— shipping registry.....	820	Civilian labour force.....	755-60
— Transport Commission.....	129, 792-3, 841	— War Pensions and Allowances Act.....	154, 349
— Wheat Board.....	144 , 493, 494, 919-20	Clay products, production of.....	568, 569, 600-1
— Wildlife Service.....	46-7	Clearing-house transactions.....	1126
Canals, Canadian systems.....	827-34	Climate of Canada.....	60-3
— expenditure and revenue re.....	834, 839, 841	Clothing industries, activity of.....	700, 706-11
— traffic of.....	827-34	Coal Board, Dominion.....	140, 146 , 611-3
— under Department of Transport.....	828 , 841	— consumption, imports and exports.....	606-8, 970, 972
Cancer, deaths from.....	269, 271-2	— and petroleum products industries.....	701, 706-12
— services for.....	307	— production.....	568, 569, 579, 606-9
Cape Breton Development Corporation.....	141, 145 , 1108	— subventions and bounties on.....	612, 932
Capital expenditures, construction and housing.....	723-45	— world production of.....	621-2
— on construction and on machinery and		Coast forest region.....	538, 539
equipment.....	723-9	— Guard, Canadian.....	836
— on waterways.....	839	Coastal waters.....	13-5
— investments in Canada.....	1081-9	Coasting service, shipping.....	821-5
— Plan, National.....	43-4	Coastline, length of.....	13
— and repair expenditures.....	725-9	Cobalt ore, production of.....	568, 577, 592
— Revision Act, CNR.....	802-3	Cod, quantity landed and value of.....	627, 628
Cargoes, water-borne..... 821-5 , 829-31, 832-3		Coin and bullion issued.....	1118
Caribbean Program, Commonwealth.....	185	— in circulation.....	1118
Casualty insurance.....	1147, 1150	Cold storage and warehousing.....	914-5
Cattle, marketing of.....	912, 913	Collective agreements.....	752, 753
— numbers and values of.....	505	Colleges—see "Education".	
— prices of.....	522	— and schools, agricultural.....	493
— slaughtered at inspected plants.....	506	— Services and staff training (Armed Forces).....	1168-9
Cement production.....	568, 569, 579, 598	Colombia, tariff arrangements with.....	995
Census—see "Population".		— trade with—see "Trade by country".	
— agricultural statistics of.....	526-33	Colombo Plan.....	184-5
Centennial Commission.....	141, 145		

	PAGE		PAGE
Columbia forest region.....	538, 539	Construction, government aid to housing	
— River power development.....	673	— of highways and roads.....	352-3, 483, 737-40 , 741, 742-5
Columbium, production of.....	568, 577, 592	— of hospitals.....	731, 810-2
Combinations in restraint of trade.....	923-5	— industry, earnings in.....	731, 734
Combines Investigation Act.....	923-5	— Limited, Defence (1951).....	765, 767, 768
Commerce—see "Trade".		— pipeline.....	141, 145-6
Commercial banking system.....	1119-20	— under Farm Credit Act.....	855-9
— construction.....	731	— Farm Improvement Loans Act.....	485-6
— Corporation, Canadian.....	141, 143 , 1172	— National Housing Act.....	483-4
— failures and bankruptcies.....	933-6	— Veterans' Land Act.....	737-45
— fishing and marketing, 1966.....	624-6	— in urban centres, proposed.....	352-3
— services, capital expenditures for.....	728	— work performed, value of.....	735-6
Commission, Canadian Pension.....	129, 347	Consulates, Canadian, abroad.....	729-33
— Transport.....	129, 792-3, 841	Consumer credit, retail.....	169-70
— Centennial.....	141, 145	— expenditure surveys.....	904-5
— Commonwealth War Graves.....	353	— price index.....	942-3
— International Joint.....	133, 468-9	Consumption of cigarettes.....	939-42
— Law.....	179	— of food.....	515
— National Battlefields.....	141, 147	— of food.....	522-5
— Capital.....	42-5, 141, 147	Continental shelf.....	14-5
— Northern Canada Power.....	141, 148 , 688	Control of alcoholic beverages.....	925-6
— Public Service.....	136-7 , 154-6	— of civil aviation.....	793, 854
— Restrictive Trade Practices.....	924-5	— of coal.....	611-3
— Unemployment Insurance.....	140, 149 , 781	— of communications.....	868 , 873-5, 878-9
Commissioners, Board of Grain.....	128, 918-9	— of farm products marketing.....	918-23
Commissions, power, provincial.....	665-7, 670-3 , 680-8	— of food and drugs.....	298-300
— Royal, federal and provincial.....	121-2	— of foreign exchange.....	1133-5
Commodities, movement and marketing of.....	894-918	— of grain trade.....	918-20
— principal, imported and exported.....	968-75	— of radio broadcasting.....	868 , 873-5, 878-9
Commodity standards.....	929-30	— of trade.....	918-32 , 987
Common stocks, index numbers of.....	944-5	— of transportation.....	791-4
Commons, House of.....	73-6, 78, 81-94 , 1249	— of wages.....	749-54
— Members of.....	83-8, 1249	Convictions of adults.....	438-45
Commonwealth Caribbean Program.....	185	— appeals against.....	448
— tariff arrangements with.....	992	— multiple.....	442
— Heads of Government meetings, 1966.....	173	— summary.....	447-8
— relations, 1966-67, Canada and.....	172-3 , 184-6	— of young adult offenders.....	445-7
— Scholarship and Fellowship Plan.....	173, 186	Convicts, number of.....	453
— tariff arrangements with.....	990-3	Co-operatives, fishermen's.....	916
— Technical Assistance Program.....	185	— marketing and purchasing.....	915-8
— trade with.....	958, 960-8	— service.....	916
— War Graves Commission.....	353	— wholesale.....	916
Communication, Government control over		Copper production.....	568, 569, 577, 580-1
— agencies of.....	868 , 873-5, 878-9	— world production of.....	621-2
Communications.....	862-93, 1028	Copyrights, industrial designs, etc.....	931
— by cable.....	871-2	Cordillera Region.....	3-5
— by satellite.....	866-7, 872	Corn, production and value of.....	501, 502
— meteorological.....	875	Corporation income taxes	
— radar.....	851, 876, 1166	— system of.....	1006, 1025, 1030, 1035 , 1037-8
— radio and television.....	867, 877-86	— profits.....	1013-5 , 1019
— telephones and telegraphs.....	862-72 , 877	Corporations, Crown.....	1068-9
Companies, life insurance.....	1137-46	— 140-9 , 157, 163	
— small loans.....	1131-3	— Agency.....	141 , 157, 163
— trust and loan.....	1128-31	— Departmental.....	140 , 157
Company of Young Canadians.....	145	— Proprietary.....	141 , 157, 163
Compensation, workmen's.....	753, 755, 785-7	Correctional institutions, adult.....	452-6
Comptroller of the Treasury.....	125-6, 135	Cost-of-living index—see "Consumer Price Index"	
Conditional grants and shared-cost programs.....	1039-45	Costa Rica, tariff arrangements with.....	995
Confederation, provincial admissions to.....	66-7, 70	— trade with—see "Trade by country"	
Congress of Industrial Organizations (CIO)		Courts, federal.....	94-6
— Canadian Labour.....	788, 789	— persons charged and convicted by.....	445
Conservation of fisheries.....	634, 635-6	— provincial and territorial.....	96
— of forests.....	554-62	Cows, milk, numbers and values of.....	505
— of land and water.....	469-72	— prices of.....	522
— of wildlife.....	45-7 , 472, 654-8	Credit, consumer.....	904-5
Constituencies, redistribution of parliamentary		— unions.....	1127-8
— 81-2, 91-4		Crime and delinquency.....	434-62
Constitution, amendment of the Canadian.....	69	Criminal and judicial statistics.....	438-54 , 460-2
— and government of Canada.....	66-188, 1249	— adults convicted of indictable offences.....	438-45
Construction, building.....	730-1 , 741-2	— appeals.....	448
— permits.....	735-6	— convictions for summary conviction	
— capital and repair expenditures on.....	723-9	— offences.....	447-8
— Central Mortgage and Housing Corporation		— correctional institutions and training	
— aid to.....	145, 737-45	— schools.....	452-6
— contracts awarded.....	734	— court proceedings.....	445
— of dwelling units.....	353, 740-5	— death sentences.....	443, 447
— of educational buildings.....	731, 734	— disposition of cases.....	442, 443-4, 452
— electric power.....	670-3, 732	— of sentences.....	443, 447
— employment in.....	733 , 759 , 762, 763, 765	— females convicted.....	440, 441 , 443-4, 446-7
— engineering.....	731-2, 734	— juvenile delinquents.....	449-52
		— law and procedure.....	434-8

	PAGE
— Criminal and judicial statistics, parole system	135, 455-6
— penitentiary service	454-5
— police forces	456-60
— young adult offenders	445-7
— Code	151, 434-3
— Crop Insurance Act	482-3
— Crops, field, production and values of	498-502
— grain, marketing of	906-11, 918-20
— prices of	499, 521, 907, 908
— stocks of	502-3, 914
— supply and disposition of	906-10
— international statistics of	534-6
— Crown Assets Disposal Corporation	141, 145
— corporations	140-9, 157, 163
— forests	29, 30, 541, 555-62
— functions of the	71-3
— lands	29-45, 541, 555-62, 617-20
— Cuba, tariff arrangements with	995
— trade with—see "Trade by country"	
— Cultural activities related to education	371, 333-400
— Currency, Canadian	1116-9
— Customs duties, revenue from	1006, 1030
— system of	990-1, 1018
— tariffs, development of	990-9
— Cyprus, tariff arrangements with	992
— trade with—see "Trade by country"	
— Czechoslovakia, tariff arrangements with	995
— trade with—see "Trade by country"	
Dairy production	508-11
— products, consumption of	508-9, 512, 524
— farm income from	495
— Daylight saving time	65
— Deaf and blind, education for	369, 370
— Deaths and death rates	250-5, 265-79, 290
— by cause	269-72, 275, 277-8
— by age and sex	265-8
— infant	250-5, 273-7, 290
— maternal	250-1, 277-9, 290
— in urban centres	252-4, 268, 275
— Debt, consolidated, of all governments	1009
— federal, direct and indirect	1009, 1029
— funded	1009, 1029
— gross	1034
— guaranteed	1009, 1029, 1033-4
— interest on	1029, 1034
— summary of	1034
— municipal	1009, 1056
— national	1033-4
— net	1032, 1034
— provincial	1009, 1051-2
— public	126, 1034
— Deciduous forest region	538, 539
— Defence, civil	1028, 1173
— Construction (1951) Limited	141, 145-6
— contracts	1171-2
— Council	1158
— expenditure	1171-2
— liaison abroad	169, 1158
— of Canada	1157-73
— National, Dept. of—see under "National"	
— Production, Dept. of, Acts administered by	149
— expenditure <i>re.</i>	1030, 1171-2
— functions of	129-30, 1171-2
— procurement and construction contracts	1171-2
— production and development sharing program	1172
— Research Board	134, 432, 1170-1
— Services and staff training colleges	1168-9
— Delinquency and crime	434-62
— juvenile	449-52
— Denmark, tariff arrangements with	995
— trade with—see "Trade by country"	
— Dental health services, public	305, 345
— Departmental corporations, Crown	140, 157
— Departments, federal, functions of (see also individual Departments)	127-39
— Deportations	240
— Deposits, bank	1115, 1119, 1123-4
— Diplomatic appointments, 1967-68	1229-30

	Page
Diplomatic representation abroad.....	166-70
— in Canada.....	170-2
Director of Soldier Settlement and Director of the Veterans' Land Act.....	140, 146
Directory of sources of official information.....	1193-1224
Disabled persons' allowances.....	336
— services for.....	310-1 , 381
Diseases, notifiable.....	322-4
Disputes, industrial.....	749-50, 758-90
— Investigation Act.....	151, 749-50
Districts, electoral.....	83-8, 92-4
Divorces.....	285
Docks, dry, earnings of federal.....	841
Doctors, numbers and earnings of.....	324-5
Dollar, price of U.S. in Canada.....	1135
— value of Canadian.....	1133-5
Dollars, holdings of U.S. in Canada.....	1135
Domestic trade and prices.....	894-945
Dominican Republic, tariff arrangements with.....	995
— trade with—see "Trade by country".	
Dominion Bureau of Statistics, functions of....	130
— history of.....	v-xi
— publications of.....	1192
— Coal Board.....	140, 146, 611-3
— Council of Health.....	293
— Observatories.....	419-21 , 610-1
Dominion-provincial relations—see "Federal- provincial".	
Drainage basins.....	9-11
Drugs, control of.....	298-300
Dry cleaning and dyeing plants.....	902-3
Duties, customs and excise.....	
926, 1017-8 , 1025, 1030, 1038-9	
— succession.....	1022-3 , 1038
Dwelling units constructed.....	353, 740-5
— loans for.....	352-3, 737-45
— statistics of the 1966 Census.....	745
Earnings, average weekly and hourly in in- dustry.....	765-72
— of employees in Federal Government.....	156-63
— in manufactures.....	698-714
Eastern Rockies Forest Conservation Board.....	146
Economic activity, 1966-67.....	1058-63
— aggregates, trends in.....	1057-1110
— Co-operation and Development, Organiza- tion for (OECD).....	184
— Council of Canada.....	140, 146, 1091-1104
— planning agencies, federal and provincial.....	1091-1110
Ecuador, tariff arrangements with.....	995
— trade with—see "Trade by country".	
Education.....	354-400
— administration and organization of.....	355-67 , 372
— adult.....	361-2 , 369, 370, 371, 361-2 , 391
— agricultural colleges and schools.....	493
— art schools, galleries and organizations.....	363-7
— for blind and deaf.....	369, 370
— business colleges.....	369, 370, 371, 381
— Canada Council.....	142, 395-6
— Student Loans Act.....	150, 365-6
CBC activities re.....	391-4
— correspondence courses.....	371
— current situation.....	354-5
— elementary and secondary.....	357-8, 367-75
— enrolment.....	368-70, 372-3, 375-6
— Eskimo.....	219-20 , 371
— external aid in.....	366-7
— federal roles.....	363-7, 371, 378-9 , 385-97 , 1028
— financing of.... 362, 364-7, 371 , 374-5 , 378-80 , 395, 425-6, 1028, 1048	
— formal.....	354-82
— grade distribution.....	373
— grants to.....	365-6, 375 , 378-80 , 395
— Indian.....	215-6 , 369, 370, 371
— library services.....	371, 396-400
— and museums.....	387-90
— NFB activities re.....	371, 394
— non-Canadian students.....	376
— private schools.....	369, 370, 371
— scholarships and fellowships.....	186, 371, 395, 403, 404
— school boards.....	373

	PAGE		PAGE
Education, school construction.....	731, 734	Employment, estimates of by metropolitan area.....	765
— schools, numbers and types of.....	369-70	— by occupational group.....	759-60
— overseas, DND.....	369, 370, 373	— by region.....	760
— special.....	359-60	— in agriculture.....	756, 759
— teachers and salaries.....	360, 369, 370, 373-4, 378	— in bus companies.....	818
— universities and colleges, administration of.....	360-1	— in civil aviation.....	853, 855
— enrolment in.....	368, 369, 370, 375-6	— in construction industries.....	733, 759, 762, 763, 765
— finances of.....	362, 365-6, 378-80, 395, 425-6	— in electrical utilities.....	677
— graduates of.....	377	— in Federal Government.....	154-63
— number of.....	369, 370, 375	— in fisheries.....	629
— research.....	371, 425-6, 562-3	— in fur industry.....	654
— staffs of.....	278	— in hospitals.....	316
— Student Loans Act, Canada.....	150, 365-6	— in manufactures.....	694-5, 698-716, 759, 762-3, 765
— University Capital Grants Fund.....	379	— by industry group.....	700-1, 706-12
— vocational and technical.....	362-5, 369, 370, 371, 380-1	— by province.....	705-12, 716
Educational assistance to children of war dead.....	350	— in mineral industries.....	762, 765
— to French-speaking states in Africa.....	186-7	— in provincial governments.....	163-4
— functions of the CBC.....	391-4	— in service industries.....	762, 764, 765
— of the National Film Board.....	371, 394	— in telegraphs and telephones.....	870, 871
— status of adult offenders.....	441	— in trade.....	762, 764, 765
— of juvenile delinquents.....	452	— injuries, fatal.....	785, 786-7
Eggs, consumption of.....	523	— Practices Act, Canada Fair.....	750
— farm income from.....	495	— winter works programs.....	748
— production, utilization and value of.....	516	— of women.....	757, 758
Egypt—see "United Arab Republic".		— on railways.....	801
Eldorado Aviation Limited.....	141, 146	— on urban transit systems.....	818-9
— Mining and Refining Limited.....	141, 146, 589	Energy, Mines and Resources, Dept. of, Acts administered by.....	130, 149
Elections, federal, dates of.....	78	— conditional grants and shared-cost programs of.....	1042
— right to vote at.....	90	— functions of.....	18-20, 130, 432, 609-11
— voters on lists and votes polled at.....	83-8, 90	Engineering construction.....	731-2, 734
— provincial.....	97-109	— research, NRC.....	408-9
— right to vote at.....	97	Eskimos, archaeology of.....	27-8
— Yukon and N.W.T.....	110-6	— education of.....	219-20, 371
Electoral Boundaries Readjustment Act.....	91	— health and welfare services for.....	220-1, 300
— districts.....	83-8, 92-4, 1249	— population.....	218
— Officer, Chief.....	135, 1030	Estate Tax Act.....	95-6, 152, 1015-6, 1030, 1038
Electric energy generated, by type of station.....	676	Estates, bankrupt, administration of.....	933-4
— provincial distribution of.....	676-7, 679	Estimates and appropriations, Federal Government.....	123-4
— imports and exports of.....	677, 678, 971	— of population, intercensal.....	211-2
— power commissions and corporations, provincial and territorial.....	665-7, 670-3, 680-8	— of the world by continents.....	221-6
— consumption, domestic and farm.....	679	Ethiopia, trade arrangements with.....	995
— development.....	659-69	— trade with—see "Trade by country".	
— trends in.....	659-62	Ethnic groups of population.....	208
— generating capability and load requirements.....	673-5	Exchange, foreign.....	1133-5
— facilities, construction of.....	670-3, 732	Exchequer Court of Canada.....	95
— nuclear, generation of.....	668-9, 672, 675	Excise duties and taxes, revenue from.....	926, 1006, 1025, 1030, 1038-9
— statistics.....	676-80	— system of.....	1016-8
— thermal, generation of.....	659-62, 667-9, 670-6, 678	Executive Branch of Federal Government.....	71-8, 1249
— transmission.....	669	Exhibition, 1967 World.....	144
— utilization of.....	662-3	Expenditure, consumer.....	942-3
Electrical products industries, activity of.....	701, 707-12	— gross national.....	1058, 1065-6
— utilities, fuel used by.....	680	— personal.....	1067
— ownership and regulation of.....	680-8	Expenditures, capital.....	723-9
Electricity and gas inspection.....	930	— and repair in various enterprises.....	725-8
— domestic and farm consumption of.....	679	— combined government.....	1007-8, 1068
— meters in use.....	930	— federal.....	125-6, 342-5, 371, 378-80, 431-3, 1007-8, 1026-8, 1030-1
— revenue from sale of.....	677, 678, 679	— municipal.....	342-4, 1007-8, 1053, 1055
Electronic research, NRC.....	409	— provincial.....	342-4, 371, 375, 1007-8, 1046, 1048-50
— systems, telephone.....	862-5	— on waterways.....	839-41
Electronics services, Government.....	873-6	Experimental farms, federal.....	478
Elevations, areas, depths of Great Lakes.....	11	Expo 67—see "Exhibition, 1967 World".	
— of principal lakes.....	12-3	Export controls.....	987
— of mountains and other heights.....	16-8	— Credits Insurance Corporation.....	141, 146, 989
Elevators, grain handled at eastern.....	910	— new gold production available for.....	957
— storage.....	914	— valuation.....	955-6
El Salvador, tariff arrangements with.....	995	Exports by commodities.....	969-71
— trade with—see "Trade by country".		— by geographic region.....	960-3
Embassies, legations, etc.....	166-72	— by leading countries.....	959
Emergency Gold Mining Assistance Act.....	613	— by section and stage of fabrication.....	977, 978-9
— Measures Organization, Canada.....	128, 1173	— of coal.....	608
— conditional grants and shared-cost programs of.....	1042	— of electric energy.....	677, 678, 971
— planning, civil defence.....	1173	— of furs.....	652-3
Emigration statistics.....	241	— of newsprint.....	550, 970
Employment.....	755-66, 773	— of livestock.....	969
— estimates of.....	760, 773	— of wheat.....	907-8, 909-10, 969
— index numbers of.....	761-6	— of wood products.....	543, 550, 970
— by industries.....	759, 762-4, 765, 773		

	PAGE		PAGE
Exports of wool.....	517	Females, deaths of.....	265-8, 271-4
— to Commonwealth countries.....	958, 960-3	— in labour force.....	757, 758
— percentage distribution of.....	958	— in population.....	205, 206
— total value of.....	957	— life expectancy of.....	286-9
Express companies.....	501-2	Fertility rates.....	259-61
Ex-service personnel, welfare services for.....	350-1	Field crops, cash receipts from.....	494-5
External Affairs Dept., Acts administered by.....	149-50	— production and values of.....	498-502
— expenditure <i>re.</i>	1030	Film Board, National.....	134, 371, 394, 1030
— functions of.....	130, 164-88, 366-7	— educational functions of.....	371, 394
— aid programs.....	184-8	Films, motion picture, production of.....	901-2
— relations, Canada's.....	164-88	Finance company operations.....	904
— trade—see "Foreign trade".		— Dept. of, Acts administered by.....	150, 483-4
		— conditional grants and shared-cost programs of.....	1042
		— expenditure <i>re.</i>	1030
		— functions of.....	131
		— federal.....	123-7, 1005-13, 1025-39
		— municipal.....	1005-9, 1023-4, 1027, 1053-6
		— provincial.....	1005-10, 1019-23, 1026-7, 1046-52
		Finances, hospital.....	317-9
		— of railways—see "Railways".	
		— of schools—see "Education".	
		Financial administration of the Government of Canada.....	123-7
		Finland, tariff arrangements with.....	995
		— trade with—see "Trade by country".	
		Fire insurance—see "Insurance".	
		— losses.....	1148-9
		Fires, forest.....	543-5
		— protection from.....	552, 555-62
		Fiscal years, federal and provincial.....	xvii
		Fish, consumption of.....	524
		— imports and exports.....	625-6, 969, 972
		— products industry.....	629-32
		— quantities landed and values of.....	624-9
		Fisheries and furs.....	623-58
		— conservation.....	634-6
		— Dept. of, Acts administered by.....	150
		— conditional grants and shared-cost programs of.....	1042
		— expenditure <i>re.</i>	432, 1030
		— functions of.....	131, 432, 632-8, 639, 640, 647
		— Development Act.....	633
		— federal-provincial relations <i>re.</i>	632-3, 1042
		— governments and the.....	632-47
		— inland.....	627, 628, 631
		— international agreements <i>re.</i>	634-6
		— persons employed in.....	629
		— Prices Support Board.....	140, 147, 638
		— primary production of.....	624-9
		— provincial research.....	639-47
		— Research Board.....	131, 636-8
		— sea.....	623-9
		— statistics of.....	626-32
		Fishermen's co-operatives.....	916
		Fishing and marketing, 1966, commercial.....	624-6
		Fitness and amateur sport program.....	336-7
		Flaxseed, acreage, production and value of.....	499, 501, 502
		— farm income from.....	495
		— prices of.....	499, 521
		— receipts and shipments of.....	910
		— stocks of.....	503
		— supply and disposition of.....	909
		Flora of Canada.....	29
		Flour, wheat, production of.....	911
		— exports of.....	969
		Flying schools and clubs.....	849
		Food and Agriculture Organization.....	175, 176
		— and beverage industries, activity of.....	700, 706-12
		— consumption of.....	522-5
		— and drug control.....	298-300
		— exports of.....	969
		— imports of.....	972
		— prices, index numbers of.....	940
		Foreign capital invested in Canada.....	1086-9
		— countries, tariff arrangements with.....	990-1, 994-9
		— currencies, Canadian life insurance in.....	1145-6
		— exchange.....	1133-5
		— representation in Canada.....	170-2
		— shipping service.....	821-5
		— trade.....	946-1004
Factory legislation.....	749-55		
Failures, commercial and industrial.....	933-6		
Fair Employment Practices Act.....	750		
— Wages Policy.....	749		
Families and households.....	211, 1252-3		
Family allowances.....	330-1		
Farm Assistance Act, Prairie.....	149, 486		
— capital.....	533		
— Credit Act.....	149, 485-6		
— Corporation.....	141, 147, 485		
— electrification.....	532-3, 679		
— implement and equipment sales.....	898-9		
— Improvement Loans Act.....	150, 482-4		
— income.....	492-7		
— labour, wages of.....	779-80		
— livestock, numbers and values of.....	505		
— Loan Act, Canadian.....	485		
— loans.....	352-3, 483-4, 485-6		
— Machinery Syndicates Credit Act.....	486		
— operators, income of.....	496-7		
— population.....	194		
— prices.....	520-2		
— index numbers of.....	521, 938		
— products, control of marketing of.....	918-23		
Farmers' Creditors Arrangement Act.....	933		
— supplementary payments to.....	494, 495		
Farming, fur.....	648-9, 651-2		
Farms, Census statistics of.....	526-33		
Fatal accidents, motor vehicle.....	270, 275, 819		
— railway.....	799		
Fats and oils, consumption of.....	523		
Federal Cabinet.....	73-5, 88-9, 1249		
— Crown corporations.....	140-9, 157, 163		
— Departments, Boards, Commissions, etc.....	127-39		
— Acts administered by.....	149-54		
— elections.....	78, 83-8, 90		
— finance.....	123-7, 1005-18, 1025-39		
— forest experiment stations.....	29, 30, 551		
— forests.....	29, 30, 541, 551-4		
— franchise.....	90		
— Government—see "Government".			
— judiciary, the.....	94-6		
— labour legislation.....	151, 746-51		
— lands.....	29-36, 42-5, 541, 544, 617-9		
— legislation, 1967-68.....	1238-41, 1249		
— Legislature, the.....	78-94, 1249		
— Parliament.....	71-94, 1249		
— sessions of.....	78		
— research.....	401-22, 425-6, 431-3		
— Royal Commissions.....	121		
Federal-provincial agricultural agreements.....	469-72, 1042		
— conditional grants and shared-cost programs.....	1039-45		
— fisheries committees.....	632-3, 1042		
— forestry agreements.....	554, 1043		
— hospital insurance.....	296-8, 1024-5, 1044		
— housing activities.....	739-40, 745, 1045		
— resource development programs.....	469-72		
— road assistance programs.....	810-2		
— taxation agreements.....	1010, 1026-7, 1039-45		
— welfare programs.....	332-8, 1043-4		
Federation of Labor, American.....	788, 789		
Feed grain assistance.....	487		
Female Employees Equal Pay Act.....	750		
Females, births of.....	256-7		
— convictions of.....	440, 441, 443-4, 446-7		

	PAGE		PAGE
Foreign trade, by country.....	959-68	Gaol sentences.....	443, 447
— Government and.....	982-99	— population.....	453
— services.....	982-9	Gas meter registrations.....	930
— offices abroad.....	983-6	— natural, production of.....	568, 569, 579, 602
— statistics.....	954-81	— and oil pipelines.....	855-61
Forest administration, research and conserva- tion.....	551-63	Gasoline, sales of.....	815
— and allied industries.....	545-51	— taxation of.....	1020-1
— depletion.....	542-5	Gatineau Park.....	44
— experiment stations, federal.....	29, 30, 551	General Agreement on Tariffs and Trade (GATT).....	990-9
— fire protection.....	552, 555-62	— Assembly, United Nations.....	174
— statistics.....	543-5	Geography, physical.....	6-18
— inventories.....	466, 472, 540, 552, 553-62	Geological Survey of Canada.....	19, 20, 610
— land tenure.....	29, 30, 541	Geology of Canada.....	1-6
— products, exports of.....	543, 550, 972	Geophysics, research in.....	419-20
— regions.....	538-9	Germany, Federal Republic of, tariff arrange- ments with.....	995
— research.....	432, 551-63	— trade with—see "Trade by country".	
— reserves.....	29, 30	Ghana, tariff arrangements with.....	992
— resources.....	466, 538-42	— trade with—see "Trade by country".	
— tree species.....	538-9, 541-2	Gold bullion, monetary use of.....	1118
— utilization.....	543	— Mining Assistance Act, Emergency.....	613
Forestry.....	537-63	— official holdings of.....	1135
— agreements, federal-provincial.....	554, 1043	— production of.....	568, 569, 577, 587-8
— capital and repair expenditures.....	725	— new, available for export.....	957
— employment, wages and salaries.....	762, 765	— treatment of, in trade statistics.....	957
— federal program.....	544, 551-4	— world production of.....	621-2
— industry, lumber.....	546-7	Government of Canada, constitution and.....	66-188, 1249-51
— pulp and paper.....	548-50	— controls—see "Control"	
— veneer and plywood.....	547-8	— Federal, administrative functions of.....	123-54
— provincial programs.....	555-62	— aids to and control of trade.....	918-32, 982-9
— reforestation.....	554-62	— to housing.....	352-3, 483, 737-40, 741, 742-5
— and Rural Development, Dept. of, Acts ad- ministered by.....	150, 470, 471-2	— to manufacturing.....	718-22
— conditional grants and shared-cost pro- grams of.....	1043	— to mineral industry.....	609-13
— expenditure <i>re</i>	432, 1030	— to navigation.....	837, 850-1, 854, 875-6
— functions of.....	131-2, 432, 470, 471-2	— to railways.....	794-5
— woods operations.....	545-6	— annuities.....	1156
Forests, Crown.....	29, 30, 541, 555-62	— Cabinet.....	73-5, 88-9, 1249
Fox pelts, number and value of.....	649, 651, 652	— debt of.....	1009, 1029, 1033-4
France, tariff arrangements with.....	995	Departments, Boards, etc. (see also under individual Departments, etc.).....	127-49
— trade with—see "Trade by country".		— economic planning agencies.....	1091-1108
Franchise, federal.....	90	— education, interest in.....	363-7, 371, 378-9, 385-97, 1028
— provincial.....	97	— employees and earnings in agency and proprietary corporations, etc.....	157, 163
Francophonie.....	173, 186-7	— employment.....	154-63
Franklin District, area of.....	7	— Executive, the.....	71-8, 1249
— creation of.....	70	— expenditure.....	125-6, 342-5, 371, 378-80, 431-3, 1007-8, 1026-8, 1030-1
Fraternal societies, insurance business of.....	1138, 1143-5	— franchise.....	90
Freight hauled by motor carriers.....	816	— health activities.....	291-304, 342-5, 351-2, 1028
— by railways.....	797-8, 804-5	— Hospital Insurance and Diagnostic Services Act.....	296-8, 1024-5, 1044
— traffic, water.....	821-5, 827-34	— hospitals.....	300, 313-4, 315, 345, 351-2
Freshwater area of Canada.....	7	— information services.....	1191
— fish, production and value of.....	628	— insurance.....	1153
Fruit, consumption of.....	523	— judiciary, the.....	94-6
— farm income from.....	495	Legislature, the.....	78-94, 1249
— imports and exports of.....	969, 972	National Health Grant Program.....	294-5, 311
— production.....	513-4	— public finance.....	123-7, 1005-18, 1025-39
Fuel, imports and exports of.....	607-8, 970, 972	— radio communication services.....	873-6
— mining, regulations <i>re</i>	611-3, 619, 620	— in relation to agriculture.....	469-72, 477-87
Fuels, production of.....	567-9, 572, 579, 601-9	— to fisheries.....	632-8
— sales of motive.....	815-6	— to forestry.....	544, 551-4
— world production of.....	621-2	— to labour.....	746-51
Fuelwood, production of.....	546	— to mineral industry.....	609-13, 617-9
Funded debt of Canada.....	1009, 1029	— revenue.....	125-6, 888, 926, 1006, 1025, 1030, 1034-9
Fur bearing animal pelts produced.....	649-52	— surveying and mapping.....	18-20
— conservation.....	45-7, 472, 654-8	— taxation, system of.....	1008, 1010-8
— dressing industry.....	654	— telegraph and telephone service.....	871-2, 875
— farming.....	648-9, 651-2	— welfare programs.....	326-32, 350-1, 1028
— goods industry.....	654	— municipal, organization of (see also under "Municipal").....	116-21
— industry.....	647-9	— Printing Bureau, Canadian.....	128
— marketing.....	649, 652-3	— savings banks.....	1126-7
— processing industry.....	653-4	— of the Territories.....	96, 110-6, 120, 121
— production statistics.....	649-52	Governments, combined revenue of.....	1006
— resource management.....	45-7, 654-8	— expenditure of.....	1007-8
— trapping.....	647-8, 650-1	— debt of.....	1009
Furniture and fixture industries, activity of.....	700, 706-11	— provincial, organization of (see also under "Provincial").....	96-109
Furs and fisheries.....	623-58		
— imports and exports of.....	652-3, 969, 972		
Gallery of Canada, National.....	140, 147, 385-6, 1030		

	PAGE		PAGE
Governors General of Canada.....	72-3	Holidays, regulations re.....	752-3 , 754, 778-9
Grain, acreages, yields and values.....	498-502	Honduras, tariff arrangements with.....	996
— Commissioners, Board of.....	128, 918-9	— trade with—see "Trade by country".	
— crops of the Prairie Provinces.....	502	Honey, production and value of.....	517-8
— disposition of.....	906-10	Horses, number and value of.....	505
— farm income from.....	495	Hospital Insurance and Diagnostic Services Act.....	
— feed, assistance program.....	487	— morbidity.....	296-8 , 1024-5, 1044
— handled at eastern elevators.....	910	— statistics.....	319-21
— imports and exports.....	908-10, 969	Hospitals, administration of.....	312-21 , 345
— lake shipments, by ports.....	910-1	— births in.....	293-8, 300-1, 351-2
— prices of.....	499, 521, 907, 908	— construction of.....	257
— stocks in storage.....	502-3 , 914	— federal.....	731, 734
— storage, licensed.....	914	— finances of.....	300, 313-4, 315, 345, 351-2
— trade, 1965-66.....	906-11	— general.....	317-9
— control of.....	918-20	— mental.....	312-3, 315-9
Grants, Canada Council.....	395-6	— patients in.....	315
— conditional, federal-provincial.....	1039-45	— personnel employed in.....	316
— public health.....	294-5	— private.....	313-5
— to provinces.....	1026-7	— public.....	313-9
— to publicly controlled schools.....	374-5	— tuberculosis.....	312, 314-9
— to universities.....	365-6, 378-80 , 395, 425-6	— veterans.....	351-2
— war service.....	350	Hotels, numbers and receipts of.....	899
Gravel and sand production.....	568, 569, 579, 598-9	Hours of labour, average worked.....	767-9, 771-2
Great Britain—see "Britain".		— regulation of.....	749, 752
— Lakes, areas, elevations and depths of.....	11	House of Commons, constitution, powers of, etc.....	73-6, 78, 81-94 , 1249
— St. Lawrence forest region.....	538	— Members of.....	83-8, 1249
— traffic.....	831-4	— redistribution of representation in.....	81-2, 91-4
Greece, tariff arrangements with.....	995	— construction.....	352-3, 730, 734, 740-5
— trade with—see "Trade by country".		Household goods movers and storage operators.....	817
Greenhouse operations.....	520	Households and families.....	211, 1252-3
Gross national expenditure.....	1058, 1065-6	Housing.....	737-45
— product.....	724, 730, 1058, 1064	— Act, National.....	145, 737-45
Guaranteed income supplement.....	329-30	— loans approved under.....	741, 742-5
— securities, federal.....	1033	— activities in 1966-67.....	740-5
Guatemala, tariff arrangements with.....	996	— capital and repair expenditures.....	725
— trade with—see "Trade by country".		— federal-provincial arrangements re.....	739-40, 745, 1045
Gypsum production.....	568, 569, 578, 596	— government aid to.....	352-3, 483, 737-40 , 741, 742-5
		— research and community planning.....	740
		— statistics of 1966 Census.....	745
		Hungary, tariff arrangements with.....	996
		— trade with—see "Trade by country".	
		Hydro- and thermal-electric power construction.....	670-3
		— consumption, domestic and farm.....	679
		— generating capability.....	673-5
		— statistics.....	676-80
		— power resources, provincial.....	663-7
Haddock, quantity landed and value of.....	627	Iceland, tariff arrangements with.....	996
Haiti, tariff arrangements with.....	996	— trade with—see "Trade by country".	
— trade with—see "Trade by country".		Illegitimate births.....	258 , 262
Halibut, quantity landed and value of.....	627, 628	Immigrant arrivals.....	231-40
Harbours.....	820-7 , 839, 841	Immigrants, deportations of.....	240
— Board, National.....	141, 147-8 , 826-7 , 839, 841	— destinations and occupations of.....	237-40
— expenditure on.....	839, 841	— health services for.....	301
— facilities of principal.....	826-7	Immigration and citizenship.....	134, 227-48
— revenue from.....	841	— policy and administration.....	227-31
— traffic in.....	821-5, 827	— statistics.....	231-40
Hay, production, yield and value of.....	499, 502	Imports by commodity.....	972-5
Heads of Government meeting, 1966 (Commonwealth).....	173	— by geographic region.....	964-8
Health activities, federal.....	291-304 , 342-5, 351-2, 1028	— by leading countries.....	959-60, 967-8
— provincial and local.....	296-8, 304-11 , 342-4, 1048, 1055	— by section and stage of fabrication.....	977, 980-1
— agencies, voluntary.....	346	— dutiable and free.....	957, 967-8
— Dominion Council of.....	293	— of coal.....	607, 608
— expenditures on personal.....	344-5	— of furs.....	653
— Grant Program, National.....	294-5 , 311	— valuation of.....	955-6
— international.....	303	Income, farm.....	493-7
— mental, programs for.....	306-7	— investment.....	1065
— public.....	293-325 , 342-6, 351-2	— labour.....	773-4
— research.....	147 , 302-3 , 352, 432	— national.....	1058, 1064
— Resources Fund.....	294	— net, at factor cost.....	1058, 1066-7
— services, veterans.....	351-2	— personal.....	1058, 1066-7
— statistics.....	311-25	— of schools, universities and colleges.....	374-5 , 378-80 , 395, 425-6
— and Welfare, Dept. of National—see under "National".		— tax collections, corporation.....	1006, 1025, 1030, 1035 , 1037-8
Heights, mountains and other.....	16-8	— individual.....	1006, 1025, 1034-6
Herring, quantity landed and value of.....	627, 628	— system of.....	1011-5 , 1019
High Commissioners, Canadian.....	166-70		
Highway mileage, classification of.....	809		
— Trans-Canada.....	137, 810-1		
Highways and roads.....	809-12		
— traffic on.....	816-8 , 1002		
— value of construction of.....	731, 810-2		
Historic parks and sites, national.....	32, 34-5 , 36		
Hogs, marketed.....	913		
— numbers and values of.....	505		
— prices of.....	522		
— slaughtered at inspected plants.....	506 , 525		

	PAGE		PAGE
Indemnities and allowances to Members of House of Commons and Senate.....	88-9	Insurance, fire and casualty, total in Canada..	1147
Index numbers of agricultural prices.....	521, 938	— federal registration.....	1147-8
— production.....	498	— provincial licensees.....	1147
— of building materials prices.....	737, 938-9	— forgery.....	1150
— of common stocks.....	944-5	— fraternal.....	1138, 1143-5
— of construction industries.....	737	— government.....	1153-4
— of consumer prices.....	939-42	— annuities.....	1156
— of employment.....	761-6	— guarantee.....	1150
— of manufacturing production.....	696	— hail.....	1150
— of mineral production.....	567	— hospital.....	296-8, 1024-5, 1044
— of mining stocks.....	945	— inland transportation.....	1150
— of preferred stock.....	945	— life.....	350-1, 353, 1137-46
— of productivity.....	1076-9	— in currencies other than Canadian.....	1145-6
— of retail prices.....	939-42	— federal registration.....	1137-46
— of security prices.....	943-5	— financial statistics of.....	1141-5
— of wage rates.....	775	— operational statistics of.....	1138-41
— of wholesale prices.....	936-9	— fraternal benefit societies.....	1138, 1143-5
India, tariff arrangements with.....	992	— provincially licensed.....	1138
— trade with—see "Trade by country".		— total in Canada.....	1138
Indian Act.....	150	— veterans.....	350-1, 353
— Affairs and Northern Development, Dept. of, Acts administered by.....	150	— livestock.....	1150
— conditional grants and shared-cost programs of.....	1043	— loan.....	737-8
— expenditure <i>re.</i>	1030	— medical, voluntary.....	346
— functions of.....	31, 132, 213-21, 432, 472	— pension plans.....	151, 292, 326-9, 347-9, 1154-6
— health services.....	300	— personal property.....	1150
— hospitals.....	300	— plate glass.....	1150
— population.....	213	— provincial government.....	1153-4
— reserves and bands.....	29, 30, 213	— sickness.....	1150
— schools.....	215-6, 369, 370, 371	— sprinkler leakage.....	1150
— welfare services.....	217-8	— theft.....	1150
Indonesia, tariff arrangements with.....	996	— unemployment.....	149, 781-5, 1024
— trade with—see "Trade by country".		— veterans.....	350-1, 353
Industrial construction work.....	730, 734	— weather and windstorm.....	1150
— design, federal assistance to.....	720-1	Intercessual surveys.....	211-2
— designs, protection of.....	931	Interest on public debt.....	1034
— Development Bank.....	147, 1115-6	— payments and receipts, international.....	1083-4
— disputes.....	749-50, 789-90	Inter-governmental Maritime Consultative Organization.....	175, 177-8
— expansion, 1946-66.....	1072-3	International activities, 1966-67.....	172-88
— failures.....	935-6	— <i>re</i> education.....	366-7
— groups, manufactures classified by.....	700-1, 706-12	— agreements <i>re</i> broadcasting.....	873, 884
— minerals.....	567-79, 593-601	— air agreements.....	177, 842-3
— Relations and Disputes Investigation Act, 151, 749-50		— Atomic Energy Agency.....	175, 179
— research.....	401-2, 404, 422-4, 426-30, 718-9	— Bank for Reconstruction and Development.....	175, 178
— safety Acts.....	753, 754-5	— birth rates.....	290
— standards legislation.....	752	— Civil Aviation Organization.....	175, 177, 842-3
— Technology, Program for the Advancement of (PAIT).....	718	— crop statistics.....	534-6
— training.....	362-5, 369, 370, 371, 380-1	— death rates.....	290
Industries—see individual industries.		— Development Association.....	175, 179
Industry, Dept. of, Acts administered by.....	150	— Finance Corporation.....	175, 178
— expenditure <i>re.</i>	1030	— fisheries conservation agreements.....	634-6
— functions of.....	132, 432, 718-22	— health.....	303
— production trends.....	1069-74	— investment position.....	1085-91
Infant mortality.....	250-5, 273-7, 290	— Joint Commission.....	133, 468-9
Information, official sources of.....	1174-1224	— Labour Organization.....	175, 176
Inland waters.....	9-13	— Law Commission.....	179
Innuition Region.....	5	— marriage rates.....	290
Insolvencies and bankruptcies.....	933-6	— Monetary Fund.....	175, 178
Inspection of gas and electricity meters.....	930	— natural increase rates.....	290
— of meats.....	479-80, 506	— payments, balance of.....	1079-85
— of steamships.....	837-8, 839, 841	— status, Canada's.....	164-6
— of weights and measures.....	930	— Telecommunication Convention.....	868, 874
Institutions, capital and repair expenditures on.....	728	— Union.....	175, 177
— penal.....	452-5	— trade unions.....	788-9
— statistics—see "Hospitals".		— welfare.....	342
Insurance.....	1137-56	Investments, capital, in Canada.....	1081-9
— accident.....	1150	— in manufactures.....	726
— aircraft.....	1150	Investors index numbers of common stocks.....	944
— automobile.....	1150	Iran, tariff arrangements with.....	996
— boiler.....	1150	— trade with—see "Trade by country".	
— casualty.....	1147, 1150	Iraq, tariff arrangements with.....	996
— Corporation, Export Credits.....	141, 146, 989	— trade with—see "Trade by country".	
— death rates.....	1141	Ireland, tariff arrangements with.....	996
— Dept., Acts administered by.....	151	— trade with—see "Trade by country".	
— expenditure <i>re.</i>	1030	Iron ore production.....	568, 569, 577, 582-3
— functions of.....	132-3	— world.....	621-2
— employers' liability.....	1150	— production of pig.....	583
— fire and casualty.....	1147-52	— and products, exports of.....	970
— finances, federal registration.....	1150-2	— imports of.....	972
		— and steel mills industry.....	702

	PAGE		PAGE
Irrigation and land conservation.....	469-72	Land settlement and house construction.....	352-3
Islands of Canada.....	13, 15-6	— use and renewable resource development.....	463-72
Israel, tariff arrangements with.....	996	— and water conservation.....	469-72
— trade with—see "Trade by country".		Lands, classification of (agricultural, forested, etc.).....	466
Italy, tariff arrangements with.....	996	— by tenure.....	29, 30, 541
— trade with—see "Trade by country".		— federal public.....	29-36, 42-5, 541, 544, 617-9
Jail sentences.....	443, 447	— forested.....	466, 540-1
— population.....	453	— occupied, improved, etc.....	466
Jamaica, tariff arrangements with.....	992	— provincial public.....	29-31, 36-42, 541, 619-20
— trade with—see "Trade by country".		— timber, administration of.....	551-2, 555-62
Japan, tariff arrangements with.....	996	Languages and mother tongues of population.....	210-1
— trade with—see "Trade by country".		Latin American Program.....	187-8
Judges of the Supreme Court.....	95	Laundries, summary statistics of.....	902-3
Judicial statistics—see "Criminal and judicial".		Law, criminal.....	434-8
— system.....	434-8	Laws, anti-discrimination.....	753
Judiciaries, territorial.....	96, 112, 115	— mining.....	617-20
Judiciary, federal.....	94-6	— safety responsibility.....	753, 754-5
— provincial.....	96	Lead production.....	568, 569, 577, 584-6
Justice Dept., Acts administered by.....	151	— world production of.....	621-2
— expenditure <i>re</i>	1030	Leather industries, activity of.....	700, 706-11
— functions of.....	133, 434-8	Lebanon, tariff arrangements with.....	997
Juvenile delinquents.....	449-52	— trade with—see "Trade by country".	
Keewatin District, area of.....	7	Legations abroad, Canadian.....	166-70
— creation of.....	70	— in Canada, foreign.....	170-2
Kennedy Round of trade negotiations.....	946-54	Legislation, federal, 1967-68.....	1238-41
Kenya, tariff arrangements with.....	992	— agriculture.....	149, 471-2, 477-87
— trade with—see "Trade by country".		— labour.....	151, 746-51
Knitting mills, activity of.....	700, 706-9, 711	— mining.....	149, 617-9
Korea, trade with—see "Trade by country".		— respecting combinations in restraint of trade.....	923-5
Kuwait, tariff arrangements with.....	996	— migratory bird.....	46, 47
— trade with—see "Trade by country".		— provincial labour.....	751-5
Labor, American Federation of.....	788, 789	— mining.....	619-20
Labour.....	746-90	— safety responsibility.....	753, 754-5
— Congress, Canadian.....	788, 789	Legislature, federal.....	78-94, 1249
— of Industrial Organizations.....	788, 789	Legislatures, provincial.....	96-109
— Dept., Acts administered by.....	151, 749-51	Letters patent granted.....	930
— conditional grants and shared-cost programs of.....	1043	Liabilities, capital, of railways.....	800
— expenditure <i>re</i>	1030	— chartered bank.....	1123
— functions of.....	133, 746-7, 1156	— Federal Government.....	1032
— disputes.....	749-50, 759-90	Liaison abroad, military.....	169, 1158
— earnings of, average.....	765-72	Liberia, tariff arrangements with.....	997
— employed in industry.....	759, 762-4, 765, 773	— trade with—see "Trade by country".	
— farm, wages of.....	779-80	Libraries.....	371, 396-400
— force.....	755-60	— academic.....	398-400
— in agriculture.....	756, 759	— public.....	397-8, 400
— civilian, estimates of.....	756	Library, National.....	135, 151, 396, 1397
— main characteristics of civilian.....	757-60	— Science.....	1037
— non-agriculture.....	756, 758	— of Parliament.....	133
— unemployment in.....	756, 758, 760	Licences, civil air personnel and airport.....	855
— government in relation to.....	746-55	— excise.....	1039
— groups, main.....	788-9	— motor vehicle.....	812-3, 814-5, 1021
— hours, average worked.....	768-9, 771-2	— operators' regulations <i>re</i>	805-9
— income, estimates of.....	773-4	— radio stations.....	873-4
— legislation, federal.....	151, 746-51	— timber.....	541, 555-62
— provincial.....	751-5	Lieutenant-Governors—see individual provinces.	
— Organization, International.....	175, 176	Life insurance—see "Insurance".	
— relations.....	749-50, 753, 755	— expectancy tables.....	285-9
— (Standards) Code, Canada.....	750-1	Lime, production of.....	568, 569, 579
— strikes and lockouts.....	789-90	Liquor, control and sale of.....	925-8
— unions, number and membership.....	787-9	Livestock, farm income from.....	495
— wage rates for selected occupations.....	775-7	— grading.....	912-3
— wages and hours, regulation of.....	749, 751-2, 754	— health of.....	479-80
— working conditions, summary of selected.....	777-9	— marketing.....	522, 912-3
Lakes, areas, elevations and depths of Great.....	11	— numbers and values of.....	505
— of principal.....	12-3	— prices.....	522
Lamb and mutton, consumption of.....	523, 525	— slaughtered.....	506, 524-5
— and sheep marketings.....	913	Living costs.....	939-43
— prices.....	522	Loan and trust companies, operations of.....	1128-31
Land Act, Veterans'.....	146, 154, 352-3	Loans Act, Canada Student.....	150, 365-6
— and freshwater areas.....	7	— bank.....	1124
— Inventory, Canada.....	472	— companies, small.....	1131-3
— resources.....	465-6, 471-2	— farm.....	352-3, 483-4, 485-6
		— for housing.....	352-3, 737-45
		— licensed money-lenders.....	1131-3
		— National Housing Act.....	145, 737-45
		— to veterans.....	352-3
		Lobsters, quantity landed and value of.....	628
		Lockouts and strikes.....	789-90
		Locks, canal.....	828

	PAGE		PAGE
Lumber, exports and imports of.....	970, 972	Manitoba, old age security.....	330
— industry.....	546-7	— parks.....	30, 33, 35, 40
— production and shipments.....	547	— population—see "Population".	
		— representation in the House of Commons.....	82, 86-7
Machinery and equipment, capital expenditures		— in the Senate.....	80, 81
on.....	723-9	— Research Council.....	423
— exports of.....	971	— roads and highways.....	809, 810
— imports of.....	973-4	— Royal Commission.....	122
— industries, activity of.....	701, 706-12	— schools—see "Education".	
Program (Dept. of Industry).....	719	— unemployment assistance.....	334
Mackenzie District, area of.....	7	— insurance benefits.....	784, 785
creation of.....	70	— water power of—see "Water Power".	
Magnesium, production of.....	568, 577, 591-2	— welfare services.....	339-42
Mail services.....	887-8	— workmen's compensation.....	755, 786-7
air.....	845, 852, 887	Manpower and Immigration, Dept. of, Acts	
Malaysia, tariff arrangements with.....	993	administered by.....	151
trade with—see "Trade by country".		Canada Manpower Division.....	747-9
Males, births of.....	256-7	functions of.....	134 , 227-31, 338, 362-5, 747-9
convictions of.....	440, 443-4, 446-7	Manufactured goods, changes in exports.....	697
deaths of.....	265-8 , 271-4	Manufactures, by industry group.....	700-1, 706-12
life expectancy of.....	286-9	by metropolitan area.....	713-4
in labour force.....	757, 758	by province.....	704-12
in population.....	205, 206	summary statistics of.....	698-714
Manitoba, admission to Confederation.....	70	of forty leading industries.....	702-3
agricultural college.....	493	working conditions of employees in.....	777-9
land.....	466	Manufacturing, activity and total activity.....	699-714
produce, index numbers of.....	498, 521	capital and repair expenditures.....	726
services.....	490	establishments, number of.....	698-718
Agriculture, Dept. of.....	490	size of.....	715-8
allowances for blind persons.....	335	federal assistance to.....	718-22
for disabled persons.....	336	growth of.....	698-9
family.....	331	industries, changes since 1961.....	694-7
mothers'.....	340	earnings in.....	698-714
youth.....	332	employment in.....	694-5, 698-716, 759, 762-3, 765
area.....	7 , 30, 466	hours of labour in, average.....	768-72
births and birth rates.....	251 , 257, 258, 264	wages and salaries, average.....	765, 767-72
capital and repair expenditures.....	729	working conditions in.....	777-9
construction industry.....	733, 734, 736	technology, markets and costs.....	689-94
co-operative associations.....	917	Maple sugar and syrup, consumption of.....	523
deaths and death rates.....	251 , 268, 273	production and value of.....	518-9
diseases, notifiable.....	323	Mapping and surveying, Federal Government.....	18-20
divorces.....	285	Maps and charts, list of.....	xv
earnings, average, in industry.....	766, 769	Marine construction.....	731, 734
Economic Consultative Board.....	1110	navigation, radio aids to.....	875-6
education—see "Education"		services of the Federal Government.....	835-8
electric power, 660, 663, 666 , 672 , 674, 676-80 , 686		Mariners, health services for.....	300-1
employment, index numbers of.....	764, 766	Marital status of adult criminal offenders.....	441
and payrolls.....	164	of brides and bridegrooms.....	283-4
farm income.....	494, 497	of immigrants.....	237
loans approved.....	484, 486	of population.....	207
statistics, Census.....	526-33	Maritime Commission, Canadian—see "Canadian Transport Commission".	
field crops.....	499-502	Marketing Act, Agricultural Products	
fisheries administration.....	644-5	Co-operative.....	921-2
fishery products—see "Fisheries".		boards, producer.....	922-3
forest resources—see "Forest".		co-operatives.....	915-8
forested area.....	466, 540, 541	of commodities.....	894-918
forestry program.....	544, 559-60	of farm products other than grain.....	921-3
government.....	96-7, 105-6 , 1251	of furs.....	649, 652-3
debt.....	1051, 1052	of grain.....	906-11 , 918-20
revenue and expenditure.....	1026-7, 1046-50	of livestock.....	522, 912-3
health services.....	296-8, 304-11, 324, 325	Marriage, age at.....	283-4
hospitals.....	296-8, 313-4, 316-7, 319	by religious denominations.....	284
immigrants—see "Population".		dissolutions of.....	285
irrigation and land conservation.....	470, 471	numbers and rates.....	250-5, 281-4 , 290
judicial convictions—see "Criminal and judicial".		Maternal mortality.....	250-1, 277-9 , 290
labour legislation—see "Criminal and judicial".		Measures, weights, etc., administration of.....	930
lakes, principal.....	751-5	tables of.....	xvii
libraries.....	398, 399	Meat packing and slaughtering industry 506, 524-5 , 702	
Lieutenant-Governor.....	105	retail prices.....	941
livestock.....	505, 913	supply, distribution and consumption of.....	507, 524-5
manufactures.....	705, 709-10	Medical Care Act.....	151, 293-4
marriages.....	251 , 282	insurance, voluntary.....	346
mineral production—see "Mineral" and "Minerals".		research.....	147 , 302-3 , 352, 425, 426, 432
mining, provincial aid to.....	616	services, federal.....	300-1
laws of—see "Mining".		provincial.....	308-10, 311
motor vehicle and traffic regulations.....	805-8	for veterans.....	351-2
mountains and other heights.....	17	Members of the Cabinet.....	75, 1249
municipalities.....	119, 120	of the House of Commons, votes polled, and voters on list.....	83-8
old age assistance.....	335	indemnities and allowances of.....	88-9
		of the Queen's Privy Council.....	76-7

	PAGE		PAGE
Members of the Senate	80-1	Multiple convictions	442
— indemnities and allowances of	88-9	Municipal debt	1009, 1056
Mental health programs	306-7	— Development and Loan Board	140
— hospitals	312, 314-9	— expenditure	342-4, 1007-8 , 1053, 1055
Merchandising and service establishments	894-905	— government, organization of	116-21
— intercensal surveys, retail	895-7	— health activities	304-11
— wholesale	898-9	— police forces	458, 459, 460
— service trades	899-904	— public finance	1005-9, 1023-4 , 1027, 1053-6
Metal industries, activity of	700-1, 706-12	— revenue	1006, 1027, 1050, 1053-4
Metals and metallics—see "Minerals"		— tax levies	1023-4
Meteorological communications, federal	875	Municipalities, number of	120
— observing stations	63-4 , 849, 875	— proposed construction in selected	735
Meters, electricity and gas	930	Museum, National, of Canada	388-90
Metropolitan areas, census population of	193, 197	Museums	387-90
— employment index numbers	765	Muskrat pelts, number and value of	651
— federal employment in	160	Mutton and lamb, consumption of	523, 525
— manufactures by	714	Mutual aid programs	180
Mexico, tariff arrangements with	997		
— trade with—see "Trade by country"		National accounts	1057-69
Microwave facilities, commercial	866-7, 877-8	— Arts Centre Corporation	147
Migratory bird legislation	46, 47	— Battlefields Commission	141, 147
Military airfields	850	— Capital Commission	42-5 , 141, 147
— forces—see "Canadian Forces"		— Plan	43-4
Milk, consumption of	508-9, 512 , 524	— debt	1033-4
— marketing control of	922	— defence	1157-73
— production of concentrated products	511	— Act	96, 151
— farm values of	509	— Armed Services—see under individual Service	
— and utilization	508	— Dept. of, Acts administered by	151
Mineral industry, historical and current	565-609	— functions of	134, 432, 1157-71
— government aid to	609-17	— expenditure re.	432, 1030, 1171
— lands legislation, federal	617-9	— organization of	1157-8
— provincial	619-20	— procurement and construction contracts	1171-2
— production, provincial distribution of	571-609	— schools, overseas	369, 370, 373
— products industries, non-metallic	701, 706-12	— services colleges and staff training colleges	1168-9
Minerals, fuel production	567-9, 572, 579, 601-9	— Employment Service—see "Canada Manpower Centres"	
— imports and exports of	970, 972, 973	— Energy Board	134 , 794, 928-9
— industrial	567-79, 593-601	— expenditure, gross	1058, 1065-6
— metallic, production of	567-78, 580-93	— Film Board	134 , 371, 394 , 1030
— world production of	621-2	— educational functions of	371, 394
— non-metallic, production of	567-76, 578-9, 593-7	— Gallery of Canada	140, 147 , 385-6 , 1030
— structural materials	567-76, 579, 597-601	— Harbours Board	141, 147-8 , 826-7 , 839, 841
Mines and minerals	565-622	— Health Grant Program	294-5 , 311
Minimum wage regulations	751-2, 754	— and Welfare, Dept. of, Acts administered by	151
Mining, current production	566-609	— conditional grants and shared-cost programs	1043-4
— industry, employment in	762, 765	— consultative and technical services of	303-4
— government aid to	609-17	— expenditure re.	432, 1031
— wages and salaries, average	765, 767-8	— functions of	134-5, 291-304, 326-38, 432
— legislation	617-20	— research activities	302-3
Ministers, Cabinet	73-5, 88-9, 1249	— Housing Act	145, 737-45
— diplomatic	166-72	— income	1058, 1064
Ministries and Lieutenant-Governors of provinces	96-109	— labour organizations	787-9
Ministry, federal, members of	75, 1249	— Library	135 , 151, 396 , 1031
Mink pelts, number and value of	648, 651, 652	— Museum of Canada	388-90
Mint, Royal Canadian	131, 1028, 1118	— Parole Board	135, 455-6
Molybdenum, production of	568, 577, 593	— parks and sites	29, 30, 31-6
Money-lenders, licensed	1131-3	— product, gross	724, 730, 1058, 1064
Money-order system, operations of	888	— railways—see "Railways"	
Money supply	1118	— Research Council	140, 148 , 401-11 , 417-9 , 432, 1031, 1044
Montane forest region	538-9	— conditional grants and shared-cost programs	1044
Mortality, by causes	269-72 , 275, 277-8	— scholarships and grants-in-aid	403, 404
— general	250-5, 265-72 , 290	— Revenue Dept., Acts administered by	151-2
— infant	250-5, 273-7 , 290	— expenditure re.	1031
— maternal	250-1, 277-9 , 290	— functions of	135 , 1035, 1038-9
Mortgage lending	737-45	— Science Library	397
Mother tongues and languages of population	210-1	— Steamships Ltd., Canadian	141
Mothers' allowances	340	— voluntary health and welfare activities	346
Motion picture theatres and production	900-2	— welfare grant program	337-8
Motive fuels, sales of	815-6	Native peoples of Canada	213-21
— taxation of	1020-1	NATO, Canada and	179-80 , 1158, 1162, 1164, 1166, 1172
Motor carriers, summary statistics of	816	Natural gas, processing and marketing of	605
— transport traffic	816	— pipelines	858-9, 861
— vehicle accidents	270, 275, 819	— production	568, 569, 579, 602
— industry	702	— increase of population	191, 192, 250-5, 279-81 , 290
— registrations by province	813		
— revenue from	814-5 , 1006		
— regulations	805-9, 1021		
— sales and financing	896, 904		
— statistics	812-9		
Motorcycles, registration of	813, 814-5		
Mountains and other heights	16-8		
Multiple births	258-9		

	PAGE		PAGE
Navigation, aeronautical, radio aids to.....	850-1, 876	Newfoundland, Agricultural Division.....	487-8
— facilities, financial statistics of.....	834, 838-42	— land.....	466
— Government aids to.....	837, 850-1, 854, 875-6	— allowances for blind persons.....	335
— marine, radio aids to.....	876	— for disabled persons.....	336
— shipping facilities and traffic.....	820-38	— family.....	331
Navy, Royal Canadian, equivalent ranks.....	1161	— mothers.....	340
— operations and training.....	1163-4 , 1167, 1168-9	— youth.....	332
— rates of pay and allowances.....	1158-61	— area.....	7, 29, 466
Netherlands, tariff arrangements with the....	997	— births, and birth rates.....	250 , 258, 264
— trade with—see "Trade by country".		— capital and repair expenditures.....	729
New Brunswick, admission to Confederation....	70	— construction industry.....	733, 734, 736
— agricultural land.....	466	— co-operative associations.....	917
— produce, index numbers of.....	498, 521	— death and death rates.....	250 , 268, 273
— schools.....	493	— diseases, notifiable.....	323
— services.....	488	— divorces.....	285
— Agriculture and Rural Development, Dept. of.....	488	— earnings, average in industry.....	765, 769
— allowances for blind persons.....	335	— education—see "Education"	
— for disabled persons.....	336	— electric power.....	660, 663, 665, 670 , 674, 676-80
— family.....	331	— employment index numbers of.....	764, 765
— mothers.....	340	— and payrolls.....	164
— youth.....	332	— farm loans approved.....	484, 486
— area.....	7, 29, 466	— statistics, Census.....	526-33
— births and birth rates.....	250 , 257, 258, 264	— fisheries administration.....	639
— capital and repair expenditures.....	729	— fishery products—see "Fisheries".	
— construction industry.....	733, 734, 736	— forest resources—see "Forest".	
— co-operative associations.....	917	— forested area.....	466, 540, 541
— deaths and death rates.....	250 , 268, 273	— forestry program.....	544, 556-7
— diseases, notifiable.....	323	— government.....	96-7, 101 , 1250
— divorces.....	285	— debt.....	1051, 1052
— earnings, average in industry.....	765, 769	— revenue and expenditure.....	1026-7, 1046-50
— education—see "Education"		— health services.....	296-8, 304-11, 324, 325
— electric power.....	660, 663, 665, 670 , 674, 676-80 , 682	— hospitals.....	296-8, 313-4, 316-8
— employment, index numbers of.....	764, 765	— immigrants to—see "Population"	
— and payrolls.....	164	— judicial convictions—see "Criminal and judicial"	
— farm income.....	494, 497	— labour legislation.....	751-5
— loans approved.....	484, 486	— lakes, principal.....	12
— statistics, Census.....	526-33	— libraries.....	398, 399
— field crops.....	499-502	— Lieutenant-Governor.....	97
— fisheries administration.....	640-2	— manufactures.....	705, 706
— fishery products—see "Fisheries".		— marriages.....	250 , 282
— forest resources—see "Forest".		— mineral production—see "Mineral" and "Minerals"	
— forested area.....	466, 540, 541	— mining, provincial aid to.....	613-4
— forestry program.....	544, 556-7	— motor vehicle and traffic regulations.....	805-8
— government.....	96-7, 101 , 1250	— mountains and other heights.....	17
— debt.....	1051, 1052	— municipalities.....	117, 120
— revenue and expenditure.....	1026-7, 1046-50	— old age assistance.....	335
— health services.....	296-8, 304-11, 324, 325	— security.....	330
— hospitals.....	296-8, 313-4, 316-8	— parks.....	29, 33, 34, 37
— immigrants to—see "Population"		— population—see "Population"	
— judicial convictions—see "Criminal and judicial"		— representation in the House of Commons... 82, 83	
— labour legislation.....	751-5	— in the Senate.....	80
— lakes, principal.....	12	— roads and highways.....	809, 810
— libraries.....	398, 399	— schools—see "Education"	
— Lieutenant-Governor.....	101	— timber, estimated stand of.....	540
— livestock.....	505	— unemployment assistance.....	334
— manufactures.....	705, 707-8	— insurance benefits.....	784, 785
— marriages.....	250 , 282	— water power—see "Water Power".	
— mineral production—see "Mineral" and "Minerals"		— welfare services.....	339-42
— mining, provincial aid to.....	614	— workmen's compensation.....	755, 786-7
— laws of—see "Mining"		— Newspapers, daily, weekly.....	889-92
— motor vehicle and traffic regulations.....	805-8	— revenue from sales of.....	893
— mountains and other heights.....	17	— Newsprint, exports of.....	550, 970
— municipalities.....	118, 120	— production.....	550
— old age assistance.....	335	— world.....	550
— security.....	330	— New Zealand, tariff arrangements with.....	993
— parks.....	29, 33, 34, 37-8	— trade with—see "Trade by country"	
— population—see "Population"		— Nicaragua, tariff arrangements with.....	997
— representation in the House of Commons... 82, 83		— trade with—see "Trade by country"	
— in the Senate.....	80	— Nickel, exports of.....	970
— Research and Productivity Council.....	423	— monetary use of.....	1118
— roads and highways.....	809, 810	— production.....	568, 569, 577, 583-4
— schools—see "Education"		— Nigeria, Federation of, tariff arrangements with.....	993
— timber, estimated stand of.....	540	— trade with—see "Trade by country"	
— unemployment assistance.....	334	— Non-metallic mineral products industries, activity of.....	701, 706-12
— insurance benefits.....	784, 785	— production.....	567-76, 578-9, 593-7
— water power of—see "Water Power".		— North American Air Defence Command (NORAD).....	180, 1162, 1166
— welfare services.....	339-42	— Regional Broadcasting Agreement.....	868, 873
— workmen's compensation.....	786-7		
Newfoundland, admission to Confederation....	70		

	PAGE
North Atlantic Treaty Organization, Canada and . . .	179-80, 1158, 1162, 1164, 1166, 1172
Northern Canada Power Commission . . .	141, 148, 688
— Transportation Company Limited . . .	141, 148
Northwest Territories, administration of . . .	96, 113-6
— allowances for blind persons . . .	335
— for disabled persons . . .	336
— family . . .	331
— youth . . .	332
— area . . .	7, 30, 466
— births and birth rates . . .	251, 257, 258, 264
— creation of . . .	70
— deaths and death rates . . .	251, 257, 268, 274
— diseases, notifiable . . .	323
— education in . . .	359, 370, 373
— electric power . . .	660, 663, 666-7, 673, 674, 676-80, 688
— forested area . . .	466, 540, 541
— government revenue, expenditure and debt . . .	1026-7, 1046-50, 1052
— health services . . .	296-8, 300
— hospitals . . .	296-8, 313-4, 316-7, 319
— lakes, principal . . .	13
— manufactures . . .	705, 712
— marriages . . .	251, 283
— mineral production—see "Mineral" and "Minerals".	
— motor vehicle and traffic regulations . . .	805-9
— mountains and other heights . . .	18
— municipalities . . .	120, 121
— old age assistance . . .	335
— security . . .	330
— parks . . .	30, 34
— population—see "Population".	
— representation, House of Commons . . .	82, 88
— roads and highways . . .	809, 810, 811-2
— unemployment assistance . . .	334
Norway, tariff arrangements with . . .	997
— trade with—see "Trade by country".	
Notes, Bank of Canada . . .	1115, 1116-7
— chartered bank . . .	1116-7
Notifiable diseases . . .	322-4
Nova Scotia, admission to Confederation . . .	70
— agricultural college . . .	493
— land . . .	466
— produce, index numbers of . . .	498, 521
— services . . .	488
— Agriculture and Marketing, Dept. of . . .	488
— allowances for blind persons . . .	335
— for disabled persons . . .	336
— family . . .	331
— mothers . . .	340
— youth . . .	332
— area . . .	7, 29, 466
— births and birth rates . . .	250, 257, 258, 264
— capital and repair expenditures . . .	729
— construction industry . . .	733, 734, 736
— co-operative associations . . .	917
— deaths and death rates . . .	250, 268, 273
— diseases, notifiable . . .	323
— divorces . . .	285
— earnings, average in industry . . .	765, 769
— education—see "Education"	
— employment, index numbers of . . .	764, 765
— and payrolls . . .	164
— farm income . . .	494, 497
— loans approved . . .	484, 486
— statistics, Census . . .	526-33
— field crops . . .	499-502
— fisheries administration . . .	640
— fishery products—see "Fisheries".	
— forest resources—see "Forests".	
— forested area . . .	466, 540, 541
— forestry program . . .	544, 556
— government . . .	96-7, 100, 1250
— debt . . .	1051, 1052
— revenue and expenditure . . .	1026-7, 1046-50
— health services . . .	296-8, 304-11, 324, 325
— hospitals . . .	296-8, 313-4, 316-8
— immigrants—see "Population".	

	PAGE
Nova Scotia, judicial convictions—see "Criminal and judicial".	
— labour legislation . . .	751-5
— lakes, principal . . .	12
— libraries . . .	398, 399
— Lieutenant-Governor . . .	100
— livestock . . .	505
— manufactures . . .	705, 707
— marriages . . .	250, 282
— mineral production—see "Mineral" and "Minerals".	
— mining, provincial aid to . . .	614
— laws of—see "Mining"	
— motor vehicle and traffic regulations . . .	805-8
— mountains and other heights . . .	17
— municipalities . . .	118, 120
— old age assistance . . .	335
— security . . .	330
— parks . . .	29, 33, 34, 37
— population—see "Population".	
— Power Commission . . .	681
— representation in the House of Commons . . .	82, 83
— in the Senate . . .	80
— Research Foundation . . .	422
— roads and highways . . .	809, 810
— Royal Commission . . .	122
— schools—see "Education".	
— unemployment assistance . . .	334
— insurance benefits . . .	784, 785
— Voluntary Planning Organization . . .	1108-9
— water power of—see "Water Power".	
— welfare services . . .	339-42
— workmen's compensation . . .	786-7
Nuclear power . . .	411-6, 668-9, 672, 675
Nursery stock . . .	519-20
Nuts, consumption of . . .	523
Oats, acreage, production and value of . . .	499, 500, 502
— farm income from . . .	495
— international statistics of . . .	535-6
— prices of . . .	499, 521, 908
— receipts and shipments of . . .	910
— stocks of . . .	503
— supply and disposition of . . .	908, 909
Observatories, Dominion . . .	419-21, 610-1
Occupations of immigrants . . .	237-40
— of persons convicted of indictable offences . . .	441
— wage and salary rates for selected . . .	775-7
Offenders, criminal . . .	438-47, 453
Office of the Chief Electoral Officer . . .	135, 1030
— of the Comptroller of the Treasury . . .	125-6, 135
— of the Representation Commissioner . . .	136
Official appointments, register of . . .	1228-36
— sources of information . . .	1174-1224
Oil fields . . .	603-4
— and gas legislation . . .	619, 620
— pipelines . . .	855-61
Oils and fats, consumption of . . .	523
Old age assistance . . .	334-5
— security . . .	329, 330
Ontario, admission to Confederation . . .	70
— agricultural colleges and schools . . .	493
— land . . .	466
— produce, index numbers of . . .	498, 521
— services . . .	489-90
— Agriculture and Food, Dept. of . . .	489-90
— allowances for blind persons . . .	335
— for disabled persons . . .	336
— family . . .	331
— mothers . . .	340
— youth . . .	332
— area . . .	7, 29, 466
— births and birth rates . . .	250, 257, 258, 264
— capital and repair expenditures . . .	729
— construction industry . . .	733, 734, 736
— co-operative associations . . .	917
— deaths and death rates . . .	250, 268, 273
— diseases, notifiable . . .	323
— divorces . . .	285
— earnings, average in industry . . .	766, 769

	PAGE		PAGE
Ontario, Economic Council.....	1109-10	Paraguay, trade with—see "Trade by country".	
— education—see "Education".		Parents, ages of.....	261-2
— electric power		Parks, historic.....	32, 34-5 , 36
660, 663, 665-6 , 671-2 , 674, 676-80 , 683-6		— national.....	29, 30, 31-6
— employment, index numbers of.....	764, 766	— provincial.....	29, 30, 36-42
— and payrolls.....	164	Parliament, federal.....	71-94, 1249
— farm income.....	494, 497	— duration and sessions of.....	78
— loans approved.....	484, 486	Parliamentary Library.....	133
— statistics, Census.....	526-33	— representation, redistribution of.....	81-2, 91-4
— field crops.....	499-502	— secretaries.....	76 , 89
— fisheries administration.....	643-4	Parole Act.....	456
— fishery products—see "Fisheries".		— Board, National.....	135, 455-6
— forest resources—see "Forest".		Patents, administration of.....	930
— forested area.....	466, 540, 541	— and Development Limited, Canadian.....	141, 144
— forestry program.....	544, 557-9	Patients in hospitals.....	315
— fruit produced, value of commercial.....	514	Payments, balance of international.....	1079-85
— government.....	96-7, 104-5 , 1250-1	Peaches, production and value of.....	513
debt.....	1051, 1052	Pears, production and value of.....	513
revenue and expenditure.....	1026-7, 1046-50	Peas, production and value of.....	500
— health services.....	296-8, 304-11, 324, 325	Pelts, fur, produced.....	649-52
— hospitals.....	296-8, 313-4, 316-7, 319	Penitentiaries.....	452-5
— Hydro-Electric Power Commission of.....	671-2 , 683-6	— movement of convicts in.....	453
— immigrants—see "Population".		Penitentiary Service, Canadian.....	128
— judicial convictions—see "Criminal and judicial".		Pension Act.....	154, 347-8
— labour legislation.....	751-5	— Commission, Canadian.....	129, 347
— lakes, principal.....	12	— Plan, Canada.....	151, 326-9
— libraries.....	398, 399	— plans.....	151, 292, 326-9 , 347-9, 1154-6
— Lieutenant-Governor.....	104	Pensions advocates.....	349
— livestock.....	505, 913	— war veterans.....	347-8
— manufactures.....	705, 709	Personal expenditure.....	1067
— marriages.....	250 , 282	— income, source and disposition of.....	1058, 10 6-7
— mineral production—see "Mineral" and "Minerals".		Peru, tariff arrangements with.....	997
— mining, provincial aid to.....	615-6	— trade with—see "Trade by country".	
— laws of—see "Mining".		Petroleum and coal products industries, activity of.....	701, 706-12
— motor vehicle and traffic regulations.....	805-8	— crude, world production of.....	621-2
— mountains and other heights.....	17	— discoveries and development.....	603-4
— municipalities.....	118-9, 120	— production.....	568, 569, 579, 601-2
— old age assistance.....	335	— refining industry.....	702
— security.....	330	— and marketing.....	604-5
— parks.....	29, 33, 35, 39-40	Philippines, tariff arrangements with.....	998
— pipelines.....	857, 858, 859	— trade with—see "Trade by country".	
— police force.....	457-8, 459, 460	Physical geography.....	6-18
— population—see "Population".		Physicians, numbers and earnings of.....	324-5
— representation in the House of Commons.....	82, 85-6	Physiographic regions.....	1-6
— in the Senate.....	80, 81	Physiology and related sciences.....	1-65
— Research Foundation.....	424	Pigs, marketing of.....	913
— roads and highways.....	809, 810	— numbers and values of.....	505
— Royal Commissions.....	122	Pilot licences in force.....	855
— Savings Office.....	1127	Pilotage service.....	838 , 839, 841
— schools—see "Education".		Pipeline developments, oil and gas.....	855-9
— unemployment assistance.....	334	— statistics.....	860-1
— insurance benefits.....	784, 785	Placer mining regulations.....	619
— water power—see "Water Power".		Platinum metals.....	568, 569, 577, 591
— welfare services.....	339-42	Plywood and veneer industry.....	547-8
— workmen's compensation.....	786-7	Poland, tariff arrangements with.....	998
Order of Canada Awards.....	1236-7	— trade with—see "Trade by country".	
Organization for Economic Co-operation and Development (OECD).....	184	Police forces.....	456-60
Organized labour in Canada.....	787-9	— municipal.....	458, 459, 460
Origins of immigrants.....	235	— provincial.....	457-8, 459, 460
— of population.....	208	— Royal Canadian Mounted.....	137 , 457 , 459, 460
Overseas Telecommunication Corporation, Canadian.....	141, 144 , 871-2	Polymer Corporation Limited.....	141 , 148
Pacific Air Lines, Canadian.....	845-6	Population, age distribution of.....	205-6
Pakistan, tariff arrangements with.....	993	— birthplaces of.....	209
— trade with—see "Trade by country".		— births and birth rates.....	250-65 , 290
Panama Canal, Canadian use of.....	831	— Censuses, statistics of.....	189-211, 1252-3
— tariff arrangements with.....	997	— cities, towns and villages.....	195-204
— trade with—see "Trade by country".		— citizenship of.....	245
Paper and allied industries, activity of.....		— deaths and death rates.....	250-5, 265-79 , 290
548-51, 700, 706-12		— density of.....	192-3
— newspaper, exports of.....	550 , 970	— electoral districts.....	92-4
— world production of.....	550	— emigration of.....	241
— products, exports of.....	970	— Eskimos.....	218
— imports of.....	972	— ethnic groups.....	208
— using industries.....	551	— farm and non-farm.....	194
Paraguay, tariff arrangements with.....	997	— growth and movement of.....	189-92
		— households and families.....	211
		— immigrant, statistics of.....	231-40
		— incorporated urban centres.....	195-204
		— Indians.....	213
		— infant mortality of.....	250-5, 273-7 , 290
		— intercensal estimates.....	211-2

	PAGE		PAGE
Population, in labour force.....	758	Prince Edward Island, area.....	7, 29, 466
— languages and mother tongues of.....	210-1	— births and birth rates.....	250, 257, 258, 264
— marital status of.....	207	— capital and repair expenditures.....	729
— marriages and divorces of.....	250-5, 281-5 , 290	— construction industry.....	733, 734, 736
— maternal mortality of.....	250-1, 277-9 , 290	— co-operative associations.....	617
— metropolitan areas.....	193, 197	— deaths and death rates.....	250, 268, 273
— natural increase of.....	191, 192, 250-5, 279-81 , 290	— diseases, notifiable.....	323
— origins of.....	208	— divorces.....	285
— of provinces and territories.....	191-4, 205-6, 210	— earnings, average in industry.....	765
— religious denominations of.....	209-10	— education—see "Education".	
— rural and urban.....	194	— electric power.....	660, 663, 665, 674, 676-80
— sex distribution of.....	204-5	— employment, index numbers of.....	764, 765
— urban and rural.....	194	— and payrolls.....	164
— world.....	221-6	— farm income.....	494, 497
Pork, consumption of.....	523, 525	— loans approved.....	484, 486
— prices of.....	941	— statistics, Census.....	528-33
Ports.....	820-7 , 839, 841	— field crops.....	499-502
— vessels and cargoes entered at.....	821-5, 827	— fisheries administration.....	639-40
Portugal, tariff arrangements with.....	998	— fishery products—see "Fisheries".	
— trade with—see "Trade by country".		— forest resources—see "Forest".	
Postage, receipts from.....	888	— forested area.....	466, 540, 541
Postal Union, Universal.....	175, 178	— forestry program.....	544, 555
Post Office, air mail services.....	887	— government.....	96-7, 98-9
— Dept., Act administered by.....	152	— debt.....	1051, 1052
— functions of.....	136, 887-8	— revenue and expenditure.....	1026-7, 1046-50
— revenue and expenditure of.....	888, 1031	— health services.....	296-8, 304-11, 324, 325
— money order system.....	888	— hospitals.....	296-8, 313-4, 316-8
— number of offices.....	887	— immigrants—see "Population".	
— organization of.....	887	— judicial convictions—see "Criminal and judicial".	
— rural mail delivery.....	887	— labour legislation.....	751-5
— Savings Bank.....	1126	— libraries.....	398, 399
— statistics.....	887-8	— Lieutenant-Governor.....	98
Potash production.....	568, 569, 579, 594	— livestock.....	505
Potatoes, consumption of.....	523	— manufactures.....	705, 706-7
— production, yield and value of.....	499, 501	— marriages.....	250, 282
Poultry, farm income from.....	495	— motor vehicle and traffic regulations.....	805-8
— meat, production and consumption of.....	507, 523	— municipalities.....	118, 120
— numbers and values of.....	506-7	— old age assistance.....	335
Power, electric, construction.....	670-3 , 732	— security.....	330
— exported.....	677, 678, 971	— parks.....	29, 33, 34, 37
— generating capability.....	673-5	— population—see "Population".	
— nuclear, generation of.....	668-9 , 672, 675	— representation in the House of Commons.....	82, 83
— statistics of.....	676-80	— in the Senate.....	80
— thermal, generation of.....	659-62, 667-9 , 670-6 , 678	— roads and highways.....	809, 810
— utilization of.....	662-3	— Royal Commission.....	122
— water—see "Water Power".		— schools—see "Education".	
Prairie Farm Assistance Act.....	149, 486	— unemployment assistance.....	334
— Rehabilitation Act.....	149, 469-70, 471	— insurance benefits.....	784, 785
— Grain Advance Payments Act.....	484	— water power of—see "Water Power".	
— Provinces, grain production.....	502	— welfare services.....	339-42
Precious Metals Marking Act.....	152, 153, 930	— workmen's compensation.....	755, 786-7
Precipitation.....	60-3	Printing Bureau, Canadian Government.....	128
Preferential tariff.....	990-3	— publishing and allied industries.....	700, 706-12
Preferred stocks, index numbers of.....	945	— revenue from.....	893
Premiers, provincial.....	98-109	Private hospitals.....	313-5
Press, Canadian.....	889-93	— schools.....	369, 370, 371
Prices of agricultural products.....	499, 516, 517, 518, 520-2 , 907-8	Privy Council, expenditure <i>re.</i>	1031
— consumer, index.....	939-42	— members of.....	76-7
— field crop.....	499, 521, 907, 908	— Office.....	136
— general.....	936-45	Production, agricultural.....	497-502 , 507-19 , 534-6, 911
— livestock.....	522	— defence.....	129-30, 1171-2
— retail, of staple foods.....	941	— electric power.....	667-9, 676-88
— security, index numbers of.....	943-5	— field crops.....	498-502
— Support Board, Fisheries.....	140, 147 , 638	— fisheries.....	624-32
— wholesale indexes.....	936-9	— forestry.....	545-51
— world index numbers.....	939, 942	— fur.....	647-52
Primary metal industries, activity of.....	700, 706-12	— manufacturing.....	694-718
Prime Minister, position of.....	73-4	— provincial distribution of.....	704-12
— Ministers since Confederation.....	74	— mining and minerals.....	565-609, 621-2
Prince Edward Island, admission to Confederation.....	70	— trends, industry.....	1069-74
— agricultural college and school.....	493	Productivity trends, aggregate.....	1074-9
— land.....	466	Profits, corporation.....	1068-9
— produce, index numbers of.....	498, 521	Proprietary corporations, Crown.....	141 , 157, 163
— services.....	488	Provinces, areas of.....	7, 29-30, 466
— Agriculture, Dept. of.....	488	— education in—see "Education".	
— allowances for blind persons.....	335	— population of.....	191-4, 205-6, 210
— for disabled persons.....	336	— subsidies and grants to.....	1026-7
— family.....	331	Provincial elections.....	97-109
— mothers'.....	340	— electric power production.....	676-88
— youth.....	332	— forest administration.....	555-62
		— reserves.....	29, 30

PAGE

Provincial franchise.....	97
— government aid to housing.....	740
— to mineral industry.....	613-7
— debt.....	1009, 1051-2
— economic planning agencies.....	1108-10
— employment.....	163-4
— expenditure.....	342-4, 371, 375, 1007-8, 1046, 1048-50
— health activities.....	296-8, 304-11, 342-4, 1048
— information, official sources of.....	1193-1224
— insurance.....	1153-4
— public finance.....	1005-10, 1019-23, 1026-7, 1046-52
— publications.....	1192
— in relation to agriculture.....	487-93
— to fisheries.....	639-47
— to forestry.....	555-62
— to labour.....	751-5
— to mineral industry.....	613-7, 619-20
— revenue.....	814-5, 926, 1006, 1026-7, 1046-7
— savings institutions.....	1127
— tax levies.....	1008, 1010, 1019-23
— welfare services.....	339-42, 1048
— governments, organization, legislatures and ministries.....	96-109, 1250-1
— judiciaries.....	96
— labour legislation.....	751-5
— lands.....	29-31, 36-42, 541, 619-20
— liquor control and sales.....	926
— mining legislation.....	619-20
— motor vehicle and traffic regulations.....	805-9
— licences and permits, revenue from.....	814-5, 1006
— parks.....	29, 30, 36-42
— police forces.....	457-8, 459, 460
— research organizations.....	422-4, 430
— Royal Commissions.....	122
— treasury bills.....	1009
— water power developments.....	663-7, 670-3
— welfare programs.....	339-42, 1048
Provincial-federal agricultural agreements.....	469-72, 1042
— conditional grants and shared-cost programs.....	1039-45
— fisheries committees.....	632-3, 1042
— forestry agreements.....	554, 1043
— hospital insurance.....	296-8, 1024-5, 1044
— housing activities.....	739-40, 745, 1045
— resource development programs.....	469-72
— road assistance programs.....	810-2
— taxation agreements.....	1010, 1026-7, 1039-45
— welfare programs.....	332-8, 1043-4
Public Archives, Acts administered by.....	152
— expenditure <i>re.</i>	1031
— functions of.....	136
— debt.....	126, 1034
— finance, federal.....	123-7, 1005-18, 1025-39
— municipal.....	1005-9, 1023-4, 1027, 1053-6
— provincial.....	1005-10, 1019-23, 1026-7, 1046-52
— health activities of Federal Government.....	291-304, 342-5, 351-2, 1028
— of provincial and local governments.....	296-8, 304-11, 342-4, 1048, 1055
— institutions—see under "Hospitals".....	
— hospitals.....	313-9
— lands, federal.....	29-36, 42-5, 541, 544, 617-9
— provincial.....	29-31, 36-42, 541, 619-20
— libraries.....	397-8, 400
— ownership of electric power.....	678-9, 680-8
— parks.....	29, 30, 31-42
— schools—see "Education".....	
— Service Commission.....	136-7, 154-6
— warehouses.....	915
— welfare and social security.....	326-42
— Works Dept., Acts administered by.....	153
— conditional grants and shared-cost programs of.....	1044-5
— expenditure <i>re.</i>	1031
— functions of.....	137
Publications, newspapers and magazines.....	889-93
— provincial, sources of.....	1192
— sale of official federal.....	1191-2
Publishing, printing and allied industries.....	700, 706-12

PAGE

Pulp and paper industry.....	548-50, 702
— Research Institute of Canada.....	401-2, 562-3
— exports.....	550, 970
— production.....	549, 550
— statistics, world.....	550
Pulpwood, production and utilization.....	543, 546
Quarantine and sick mariners hospitals.....	300-1
Quarrying, regulations <i>re.</i>	620
Quartz production.....	568, 569, 579
Quebec, admission to Confederation.....	70
— agricultural colleges and schools.....	493
— land.....	466
— produce, index numbers of.....	498, 521
— services.....	488-9
— Agriculture and Colonization, Dept. of.....	488-9
— allowances for blind persons.....	335
— for disabled persons.....	336
— family.....	331, 342
— mothers.....	340
— youth.....	331-2
— area.....	7, 29, 466
— births and birth rates.....	250, 257, 258, 264
— capital and repair expenditures.....	729
— Collective Agreement Act.....	752
— construction industry.....	733, 734, 736
— co-operative associations.....	917
— deaths and death rates.....	250, 268, 273
— diseases, notifiable.....	323
— divorces.....	285
— earnings, average in industry.....	766, 769
— Economic Advisory Council.....	1109
— education—see "Education".....	
— electric power.....	660, 663, 665, 671, 674, 676-80, 682-3
— employment, index numbers of.....	764, 766
— and payrolls.....	164
— farm income.....	494, 497
— loans approved.....	484, 486
— statistics, Census.....	526-33
— field crops.....	499-502
— fisheries administration.....	642-3
— fishery products—see "Fisheries".....	
— forest resources—see "Forest".....	
— forested area.....	466, 540, 541
— forestry program.....	544, 557
— government.....	96-7, 102-3
— debt.....	1051, 1052
— revenue and expenditure.....	1026-7, 1046-50
— health services.....	296-8, 304-11, 324, 325
— hospitals.....	296-8, 313-4, 316-8
— Hydro-Electric Commission.....	671, 683
— immigrants—see "Population".....	
— judicial convictions—see "Criminal and judicial".....	
— labour legislation.....	751-5
— lakes, principal.....	12
— libraries.....	398, 399
— Lieutenant-Governor.....	102
— livestock.....	505, 913
— manufactures.....	705, 708-9
— marriages.....	250, 282
— mineral production—see "Mineral" and "Minerals".....	
— mining, provincial aid to.....	614-5
— laws of—see "Mining".....	
— motor vehicle and traffic regulations.....	805-8
— mountains and other heights.....	17
— municipalities.....	118, 120
— old age assistance.....	335
— security.....	330
— parks.....	29, 34-5, 38
— Pension Plan.....	292, 326
— pipelines.....	857, 859
— police force.....	457, 459, 460
— population—see "Population".....	
— representation in the House of Commons.....	82, 84-5
— in the Senate.....	80-1
— roads and highways.....	809, 810
— Royal Commissions.....	122

	PAGE		PAGE
Quebec savings banks.....	1127	Rehabilitation of veterans.....	351
— schools—see "Education".		— services, public.....	310-1, 333, 351, 749
— unemployment assistance.....	334	Religious denominations of brides and grooms.....	284
— insurance benefits.....	784, 785	— of population.....	209-10
— water power—see "Water Power".		Repair expenditures.....	725-32
— welfare services.....	339-42	Representation Commissioner, Office of the.....	136
— workmen's compensation.....	755, 786-7	— in the House of Commons.....	81-3
Queen, The, functions of in Canada.....	72	— in the Senate.....	79-81
— Royal Style and Title of.....	72	— parliamentary, redistribution of.....	81-2, 91-4
Queen's Printer.....	1191-2	Representatives of Canada abroad.....	166-70
— Privy Council for Canada, members of.....	76-7	— of other countries in Canada.....	170-2
		Reprints of special material available.....	1224-8
Race track taxes.....	1023	Research, aeronautical.....	409
Radar systems.....	851, 876, 1166	— agricultural.....	404-5, 410-1, 432, 478-81
Radiation protection.....	301-2, 405	— astronomical.....	420-1
Radio aids to aeronautical navigation.....	850-1, 876	— atomic energy.....	411-6, 432
— to marine navigation.....	875-6	— Board, Defence.....	134, 432, 1170-1
— broadcasting.....	391-4, 878-86	— Fisheries.....	131, 636-8
— facilities.....	880	— building.....	407, 740
— statistics.....	885-6	— Council, National—see under "National".	
— Canadian Broadcasting Corporation.....	141, 143, 391-4, 868, 878-86, 1030	— federal.....	401-22, 425-6, 431-3
— Armed Forces Service.....	883	— fisheries.....	131, 432, 636-8, 639-47
— educational functions.....	391-4	— forestry.....	432, 551-63
— finances.....	884-5, 886	— geophysical.....	419-20
— international service.....	883-4	— industrial.....	401-2, 404, 422-4, 426-30, 718-9
— national network and stations.....	880, 881-2	— medical.....	147, 302-3, 352, 425, 426, 432
— Radio-Television Commission.....	879	— provincial.....	422-4, 430
— communication services, Government.....	873-6	— pulp and paper.....	401-2, 562-3
— licensing and regulation.....	873-4	— scientific and industrial.....	401-33
— control, Government.....	868, 873-5, 878-9	— space.....	409-10, 417-9
— interference, investigations of.....	874-5	— university.....	371, 425-6, 562-3
— international agreements.....	873, 884	— wildlife.....	47
Railway accidents.....	799	Reserves, forest.....	29, 30
— Act.....	95, 153, 793	— Indian.....	29, 30, 213
— brotherhoods, unaffiliated.....	788	Resource development.....	463-72
— Canadian National System.....	144, 802-5	Resources—see individual primary industries.	
— capital structure and debt of.....	802-4, 1033	— federal agencies concerned with.....	467-8
— financial statistics.....	802-4	— international boards and commissions.....	468-9
— mileage and traffic of.....	804-5	— land.....	465-6, 471-2
— Canadian Pacific.....	794, 800, 802	— wildlife.....	45-60, 472, 654-8
— debt.....	800, 803, 804	Restaurants, receipts of.....	900
— freight movement.....	797-8, 805	Restrictive Trade Practices Commission.....	924-5
Railways.....	794-805	Retail credit.....	905
— capital investment in.....	727, 800	— prices and consumer price index.....	939-42
— liability of.....	800	— trade.....	895-7
— commodities hauled on.....	798	Revenue, combined government.....	1006, 1068
— construction, value of.....	732	— excise duties and taxes 926, 1006, 1025, 1030, 1033-9	
— employees and earnings.....	801	— federal.....	125-6, 888, 926, 1006, 1025, 1030, 1034-9
— express companies.....	801-2	— from taxation, analysis of.....	1008, 1010-8
— finances of.....	799-801, 802-4	— liquor control.....	926
— Government aid to.....	794-5	— motor vehicle.....	814-5, 1006
— microwave facilities of.....	877	— municipal.....	1006, 1027, 1050, 1053-4
— mileage of.....	795-6, 804	— National, Dept. of—see under "National".	
— persons killed or injured on.....	799	— printing and publishing.....	893
— securities guaranteed by Federal Government.....	1033	— provincial.....	814-5, 926, 1006, 1026-7, 1046-7
— rolling-stock of.....	796-7	Rivers, length of principal.....	10-1
— salaries and wages and wage rates.....	801	Road Network Program, Northern.....	811-2
— traffic, passenger and freight.....	797-8, 804-5	— transport.....	805-19
— urban transit systems.....	818-9	Roads and highways, construction, value of 731, 810-2	
Rapeseed, production and value of.....	501	— finances of.....	810-2
Raspberries, production and value of.....	513	— mileage by type and province.....	809
Real domestic product.....	1069-73	— traffic on.....	816-8, 1002
Redistribution of parliamentary representation.....	81-2, 91-4	— to resources program.....	616, 812
Re-establishment credits, veterans.....	350	Rolling-stock of railways.....	796-7
Refining and marketing, petroleum.....	604-5	Royal Canadian Air Cadets.....	1168
Reforestation.....	554-62	— Force, equivalent ranks.....	1161
Reformatories.....	452, 453	— operations and training.....	1166-7
Regions, physiographic.....	1-6	— rates of pay and allowances.....	1158-61
Register of official appointments.....	1228-36	— reserve.....	1167
Registrar General, Dept. of the.....	137, 153	— flying clubs.....	849
Registration of motor vehicles.....	812-3	— Mint.....	131, 1028, 1118
Registry, vessels on Canadian shipping.....	820	— Mounted Police.....	137, 457, 459, 460
Regulations re broadcasting.....	868, 873-5, 878-9	— Navy, equivalent ranks.....	1161
— re labour.....	749-55	— operations and training.....	1163-4, 1167, 1168-9
— re mining.....	617-20	— rates of pay and allowances.....	1158-61
— re motor vehicles and traffic.....	805-9	— reserve.....	1164
Rehabilitation, land.....	469-72	— Sea Cadets.....	1167
		— Commission on transportation.....	792
		— Commissions, federal and provincial.....	121-2
		— Style and Title of The Queen.....	72
		Rubber industries, activity of.....	700, 708, 709, 711
		Rural and urban population.....	194

	PAGE		PAGE
Rye, acreage, production and value of	499, 500, 502	Saskatchewan, mining laws of—see "Mining".	
— farm income from	495	— motor vehicle and traffic regulations	805-8
— prices of	499, 521	— mountains and other heights	17
— receipts and shipments of	910	— municipalities	119, 120
— stocks of	503	— old age assistance	335
— supply and disposition of	909	— security	330
		— parks	30, 33, 35, 40-1
Safety legislation, industrial	753, 754-5	— pipelines	855-9
— traffic	806-7	— population—see "Population"	
St. Lawrence-Great Lakes traffic	831-4	— Power Corporation	666, 686-7
— River ship channel	837	— representation in the House of Commons	82, 87
— Seaway Authority	141, 148, 831-4, 839, 840, 841	— in the Senate	80, 81
— statistics	831-4, 839, 841	— Research Council	423
Salaries and wages—see "Wages".		— roads and highways	809, 810
— in construction	765, 767, 768	— Royal Commission	122
— in Federal Government	156-63	— schools—see "Education"	
— in manufacturing—see "Manufacturing"		— unemployment assistance	334
— on railways	801	— insurance benefits	784, 785
Sales of alcoholic beverages	925-8	— water power—see "Water Power"	
— of farm implements and equipment	898-9	— welfare services	339-42
— financing	904	— workmen's compensation	786-7
— of new motor vehicles	896	Satellite, communication by	866-7, 872
Salmon, production of canned	631	Savings Bank, Post Office	1126
— quantity landed and value of	627, 628	— bonds	1135-7
Salt production	568, 569, 579, 594-5	— institutions, provincial government	1127
Sand and gravel production	568, 569, 579, 598-9	— personal	1067
Saskatchewan, admission to Confederation	70	Sawmilling industry	546-7, 702
— agricultural colleges and schools	493	Scholarships and fellowships	186, 371, 395, 403, 404
— land	466	School corporations, debt of	1056
— produce, index numbers of	498, 521	Schools—see "Education"	
— services	490-1	— training for delinquents	452, 453
— Agriculture, Dept. of	490-1	Science Council of Canada	148
— allowances for blind persons	335	— Library, National	397
— for disabled persons	336	Scientific and industrial research	401-33
— family	331	Sea fisheries	623-9
— mothers	340	Seaway Authority, St. Lawrence	141, 148, 831-4, 839, 840, 841
— youth	332	Secretary of State Dept., Acts administered by	153, 242-4
— area	7, 30, 466	— conditional grants and shared-cost programs of	1045
— births and birth rates	251, 257, 258, 264	— expenditure re	1031
— capital and repair expenditures	729	— functions of	137, 242-4, 432
— construction industry	733, 734, 736	Securities guaranteed by Federal Government	1033
— co-operative associations	917	Security, social	326-44, 347-51
— deaths and death rates	251, 268, 273	— prices, index numbers of	943-5
— diseases, notifiable	323	Senate, indemnities and allowances of Members	88-9
— divorces	285	— Members of and representation in	79-81
— earnings, average in industry	766, 769	Service co-operatives	916
— education—see "Education"		— trades	899-904
— electric power	660, 663, 666, 672, 674, 676-80, 686-7	— industries, average wages and salaries	765, 767
— employment, index numbers of	764, 766	Services Colleges, Canadian	1168-9
— and payrolls	164	Sessions of Parliament, durations of	78
— farm income	494, 497	Sex distribution of adult offenders	440, 443-4, 446-7
— loans approved	484, 486	— of immigrants	236-7
— statistics, Census	526-33	— of population	204-5
— field crops	499-502	— ratios of live births	256-7
— fisheries administration	645-6	Shared-cost and conditional grants programs	1039-45
— fishery products—see "Fisheries"		Sheep and lambs, marketing of	913
— forest resources—see "Forest"		— prices of	522
— forested area	466, 540, 541	— numbers and values of	505
— forestry program	544, 560	— slaughtered at inspected plants	506, 525
— government	96-7, 106-7, 1251	Shingles, shipments of	547
— debt	1051, 1052	Shipbuilding construction assistance, federal	722
— insurance	1153	Shipping Act, Canada	152, 153, 820, 837, 873-4
— revenue and expenditure	1026-7, 1046-50	— aids to navigation	837, 875-6
— health services	296-8, 304-11, 324, 325	— coastwise	821-5
— hospitals	296-8, 313-4, 316-7, 319	— entered at Canadian ports	821
— immigrants—see "Population"		— foreign service	821-5
— irrigation and land conservation	470, 471	— registry, Canadian	820
— judicial convictions—see "Criminal and judicial"		— steamship inspection	837-8, 839, 841
— labour legislation	751-5	— subsidies	842
— lakes, principal	13	— traffic	821-5, 827-34
— libraries	398, 399	— vessels, registered	820
— Lieutenant-Governor	106	— water-borne cargo	821-5, 829-31, 832-3
— livestock	505, 913	Ships on Canadian registry	820
— manufactures	705, 710-1	Shopping centres	896-7
— marriages	251, 282	Sickness insurance	1150
— mineral production—see "Mineral" and "Minerals"		Sierra Leone, tariff arrangements with	993
— mining, provincial aid to	616-7	— trade with—see "Trade by country"	

	PAGE
Silver, monetary use of.....	1118
— production.....	568, 569, 577, 589-91
— world production of.....	621-2
Skins, fur, number and value of.....	649-52
Slaughtering and meat packing industry.....	506, 524-5 , 702
Small loans companies.....	1131-3
Social security.....	326-44 , 347-51
Sodium sulphate, production of.....	568, 569, 579, 597
Soldier settlement.....	146
Soldiers Insurance Act, Returned.....	350
Solicitor General, Dept. of the.....	137-8, 153
South Africa, tariff arrangements with.....	998
— trade with—see "Trade by country".	
Sovereigns of Canada since Confederation.....	72
Soviet Union—see "Union of Soviet Socialist Republics".	
Soybeans, production and value of.....	501
Space research.....	409-10, 417-9
Spain, tariff arrangements with.....	998
— trade with—see "Trade by country".	
Special Commonwealth Africa Assistance Plan (SCAAP).....	173, 185-6
Specialized Agencies, United Nations.....	175-9 , 188
Spirits, excise revenue from.....	1039
— duties on.....	1017-8
— government revenue from.....	926, 1039
Staff training colleges, Armed Forces.....	1169
Stamps, postage, revenue from.....	888
Standard time and time zones.....	64-5
State, Dept. of the Secretary of—see "Secretary of State".	
Statistics, Dominion Bureau of.....	130
Steamship inspection, administration.....	837-8 , 839, 841
— subventions.....	842
Steel ingots and castings, production of.....	583
Steers, prices of.....	522
Stillbirths.....	259, 263-5
Stocks, index numbers of common.....	944-5
— of mining.....	945
— of preferred.....	945
— of grain.....	502-3 , 914
Stockyards, marketing at.....	912-3
Stone production.....	568, 569, 579, 599-600
Storage of grain, licensed.....	914
— and warehousing.....	914-5
Strawberries, production and value of.....	514
Streets, urban.....	812
Strikes and lockouts.....	789-90
Structural materials, production of.....	568, 569, 579, 597-601
Student Loans Act, Canada.....	150, 365-6
Subalpine forest region.....	538
Submarine cables.....	872
Subsidies to provinces.....	1026-7
— shipping.....	842
Subventions and bounties on coal.....	612, 932
— steamship.....	842
Succession duties.....	1022-3 , 1038
Sugar beets, production and value of.....	502, 518
— and syrup, consumption of.....	523
— maple, production of.....	518-9
Suicides.....	270
Sulphur production.....	568, 569, 579, 595-6
Summary conviction offences.....	447-8
Supreme Allied Commander Atlantic (SACLANT).....	180, 1158
— Court of Canada.....	94-5, 133
Surveying and mapping, Federal Government.....	18-20
Surveys, intercensal.....	211-2
— labour force.....	755-60
Sweden, tariff arrangements with.....	998
— trade with—see "Trade by country".	
Swine—see "Hogs".	
Switzerland, tariff arrangements with.....	998
— trade with—see "Trade by country".	
Syria, tariff arrangements with.....	998
— trade with—see "Trade by country".	
Syrup and sugar, consumption of.....	523
— maple, production of.....	518-9

	PAGE
Tanganyika, trade with—see "Trade by country".	
Tanzania, United Republic of, tariff arrangements with.....	993
Tariff agreements.....	991-9
— Board.....	138
— customs and excise, structure of.....	990-1, 1017-8
— revenue from.....	926, 1006, 1025, 1030, 1038-9
— relationships with Commonwealth countries.....	990-3
— with non-Commonwealth countries.....	990-1, 994-9
Tariffs, development of.....	990-9
— and Trade, General Agreement on.....	990-9
Tax agreements, federal-provincial.....	1010, 1026-7, 1039-45
— Appeal Board.....	95-6, 138
— corporation profits.....	1068-9
— excise, collected.....	1038
— on gasoline and diesel fuel.....	1020-1
— income.....	1006, 1011-5 , 1019, 1025, 1030, 1034-8
— revenue.....	814-5, 926, 1006, 1025, 1030, 1035-6 , 1038-9, 1047, 1054
Taxation in Canada, system of.....	1008-25
— federal.....	1008, 1010-8
— municipal.....	1023-4
— provincial.....	1008, 1010, 1019-23
Teachers and salaries.....	360, 369, 370, 373-4, 378
Technical Assistance Program, Commonwealth.....	185
— and vocational education.....	362-5 , 369, 370, 371, 380-1
Telecommunications.....	862-86
— civil, Federal Government services.....	873-6
— and Electronics Branch of the Dept. of Transport.....	854-5, 873-6
— Government control over agencies of.....	868, 873-5, 878-9
— microwave facilities.....	866-7, 877-8
— overseas services.....	871-2
— cables landed in Canada.....	872
Telegraphs.....	863-4, 871-2
Telephone, Trans-Canada System.....	862-3, 867, 877
Telephones.....	862-70 , 871-2, 877
— capital investment in.....	732
— electronic exchanges.....	862-5
— microwave facilities.....	866-7, 877
— statistics of.....	868-70
Television.....	391-4, 867, 877-86
Temperatures.....	60-3
Tenure of public lands.....	29-30, 541
Territorial governments.....	96, 110-6 , 120, 121
— judiciaries.....	96, 112, 115
Textile industries, activity of.....	700, 706-11
Textiles, exports of.....	970
— imports of.....	973
Theatres, motion picture.....	900-2
Thermal power, generation of 659-62, 667-9 , 670-6 , 678	
— ownership and regulation of.....	680-8
— research in.....	411-6
Timber—see also "Forest" and "Forestry".	
— Crown.....	541 , 555-62
— depletion.....	542-5
— exports.....	543, 970
— lands, administration of.....	551-2, 555-62
— marks, protection of.....	931
— stand, volume of.....	540
Time zones.....	64-5
Titanium production.....	568, 569, 592
Tobacco, consumption of.....	515
— leaf, acreage, production and value of.....	515-6
— products industries, activity of.....	700, 708, 709
— taxes on.....	1017, 1018, 1020
— revenue from.....	1025, 1038, 1039
Tourist expenditure in Canada.....	1000-1
— of Canadians in United States and overseas.....	1000-1, 1003
— information.....	989
— trade.....	999-1003
Towns and cities, population of.....	195-204
Trade agreements with Commonwealth countries.....	990-3
— with non-Commonwealth countries.....	990-1, 994-9
— and Commerce Dept., Acts administered by.....	153
— Canadian Trade Commissioner Service.....	138, 982-6
— commodity branches.....	987-8

	PAGE		PAGE
Trade and Commerce Dept., conditional grants		Travel Bureau, Canadian Government.....	989
— and shared-cost programs of.....	1045	— distances between certain cities.....	8
— Exhibition Commission.....	988	Treasury Board.....	123-7 , 139
— expenditure re.....	1031	Treaties, trade.....	991-9
— Export Credits Insurance Corporation		Tree species, forest.....	538-9, 541-2
— 141, 146 , 989		Trends in economic aggregates.....	1057-1110
— foreign trade services.....	982-9	Tributaries of principal rivers, lengths of.....	10-1
— functions of.....	138, 982-9	Trinidad and Tobago, tariff arrangements with	993
— Trade Publicity Branch.....	988	— trade with—see "Trade by country".	
— balance changes.....	957	Trust and loan companies.....	1128-31
— of international payments.....	1079-85	Tuberculosis hospitals.....	312, 314-9
— by commodity.....	968-75	— special programs for treatment of.....	307
— by country.....	959-68	Turkey, tariff arrangements with.....	999
— by geographic area.....	958-68	— trade with—see "Trade by country".	
— by section and stage of fabrication.....	975-81	Turkeys, numbers and values of.....	506-7
— capital expenditures in wholesale and retail			
— coasting.....	821-5		
— combinations in restraint of.....	923-5	Uganda, tariff arrangements with.....	993
— Commissioner Service, Canadian.....	138, 982-6	— trade with—see "Trade by country".	
— with Commonwealth and other countries.....	958-68	Unemployment assistance.....	333-4
— with leading countries.....	959-60 , 967-8	— insurance.....	149, 781-5 , 1024
— disputes.....	749-50, 789-90	— Commission.....	140, 149 , 781
— domestic.....	894-936	— contributions and benefits.....	781-5
— Government aids to and control of.....	918-32	— persons insured under.....	783
— fairs.....	986-7	— in labour force.....	756, 760
— foreign.....	946-1004	UNESCO, Canada and.....	175, 177 , 371 , 396
— Government and.....	982-99	Union of Soviet Socialist Republics, tariff	
— general agreements on tariffs and (GATT).....	990-9	— arrangements with.....	999
— grain.....	906-11 , 918-20	— trade with—see "Trade by country".	
— marks, administration of.....	931-2	Unions, credit.....	1127-8
— schools.....	362-5 , 369, 370, 371, 380-1	— labour.....	787-9
— services, foreign.....	982-9	United Arab Republic, tariff arrangements	
— standards.....	929-30	— with.....	999
— statistics, explanations re.....	954-6	— trade with—see "Trade by country".	
— treatment of gold in.....	957	— Kingdom—see "Britain".	
— tariffs, development of.....	990-9	— Nations, Canada and.....	174-9 , 371, 396
— tourist.....	999-1003	— Children's Fund.....	174, 175
— unions.....	787-9	— Educational, Scientific and Cultural	
— wholesale and retail.....	895-9	— Organization.....	175, 177 , 371, 396
— average wages and salaries in.....	765, 767	— Food and Agriculture Organization.....	175, 176
— establishments, capital and repair ex-		— General Assembly.....	174
— penditures on.....	728	— Inter-governmental Maritime Consultative	
Traffic accidents, motor vehicle.....	270, 275, 819	— Organization.....	175, 177-8
— air.....	844-8, 852-3	— International Atomic Energy Agency.....	175, 179
— at Canadian border points.....	1002	— Bank for Reconstruction and Develop-	
— canal.....	827-34	— ment.....	175, 178
— Great Lakes-St. Lawrence.....	831-4	— Civil Aviation Organization.....	175, 177 , 842-3
— harbour.....	821-5, 827	— Development Association.....	175, 179
— railway.....	797-8 , 804-5	— Finance Corporation.....	175, 178
— regulations, motor vehicle and.....	805-9	— Labour Organization.....	175, 176
— road and highway.....	816-8 , 1002	— Law Commission.....	179
— shipping.....	821-5 , 827-34	— Monetary Fund.....	175, 178
Training, air force.....	1166-7, 1168-9	— Telecommunication Union.....	175, 177
— apprenticeship.....	363, 364	— Specialized Agencies.....	175-9 , 188
— army.....	1165, 1168-9	— World Health Organization.....	175, 177
— naval.....	1163-4, 1168-9	— Meteorological Organization.....	175, 177
— schools for delinquents.....	452, 453	United States dollar in Canada, price of.....	1135
— vocational.....	362-5 , 369, 370, 371, 380-1	— trade with 653, 958-9, 963, 967, 968, 969-75 , 978-81	
Trans-Canada Air Lines—see "Air Canada".		— agreement with.....	999
— Highway System.....	137, 810-1	Universal Postal Union.....	175, 178
Transit systems, urban.....	818-9	Universities—see "Education".	
Transport, civil air.....	842-55	University Capital Grants Fund.....	379
— Commission, Canadian.....	129, 792-3, 841	Uranium production.....	568, 569, 578, 588-9
— Dept., Acts administered by.....	153-4	Urban centres, births in.....	252-4 , 258
— air services.....	138-9, 844-5, 849-52	— deaths in.....	252-4 , 268, 275
— canals.....	828 , 841	— employment in.....	765, 766
— conditional grants and shared-cost pro-		— marriages in.....	252-4
— grams of.....	1045	— natural increase in.....	252-4
— expenditure re.....	432, 1031	— proposed construction in selected.....	735
— functions of.....	138-9 , 432, 791-3 , 842-4, 873-6	— renewal.....	740, 744-5
— Telecommunications and Electronics		— and rural population.....	194, 195-204
— Branch.....	854-5, 873-6	— streets.....	812
— rail.....	794-805	— transit systems.....	818-9
— road.....	805-19	Uruguay, tariff arrangements with.....	999
— urban transit systems.....	818-9	— trade with—see "Trade by country".	
— water.....	820-42	Utilities, capital, repair and maintenance	
Transportation.....	791-861 , 1028, 1048	— expenditures in.....	727
— equipment industries, activity of.....	701, 706-12		
— government promotion and regulation of.....	791-4	Vacations Act, Annual.....	151
— Royal Commission on.....	792	— regulations re.....	752-3 , 754, 778-9
Trapping, fur.....	647-8, 650-1	— and working conditions.....	777-9
Travel between Canada and other countries.....	999-1003		

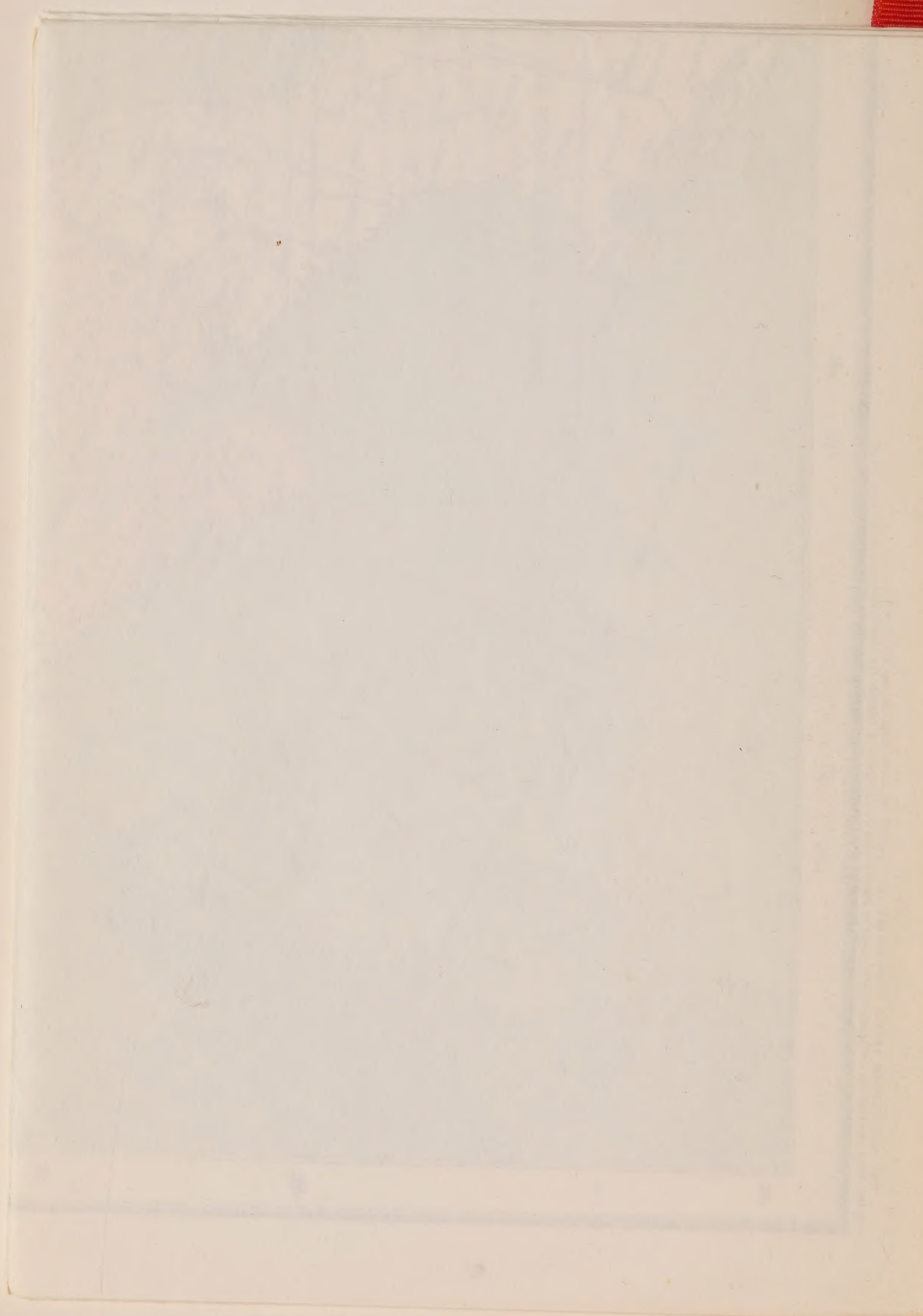
	PAGE
Veal, consumption of.....	523, 524-5
Vegetables, acreage and production of.....	514-5
— consumption of.....	523
— exports of.....	969
— imports of.....	972
Vending machine operators.....	897
Veneer and plywood industries.....	547-8
Venezuela, tariff arrangements with.....	999
— trade with—see "Trade by country".	
Vessels on Canadian registry.....	820
— entered at Canadian ports.....	821
Veterans Affairs, Dept. of, Acts administered by.....	154
— expenditure re.....	432, 1031
— functions of.....	139, 346-53, 432
— allowances.....	348-9
— Assistance Fund.....	350
— Bureau.....	139, 349
— gratuities.....	350
— hospitals.....	351-2
— insurance.....	350-1, 353
— Land Act.....	146, 154, 352-3
— loans and grants.....	350, 352-3
— medical services.....	351-2
— pensions.....	347-8
— re-establishment credits.....	350
— rehabilitation and welfare services.....	350-1
Villages, towns and cities, populations of.....	195-204
Vital statistics.....	249-90
— births and birth rates.....	250-65, 290
— multiple.....	258-9
— Canadian life tables.....	285-9
— deaths and death rates.....	250-5, 265-79, 290
— divorces.....	285
— infant mortality.....	250-5, 273-7, 290
— international comparisons of.....	289-90
— marriages and marriage rates.....	250-5, 281-4, 290
— maternal mortality.....	250-1, 277-9, 290
— natural increase.....	250-5, 279-81, 290
— summary of.....	250-5
Vocational rehabilitation.....	310-1, 338, 351, 749
— and technical education.....	362-5, 369, 370, 371, 380-1
Voluntary health and welfare activities.....	346
Votes polled at federal elections.....	83-8, 90
Wage rates and hours of labour.....	775-80
— for selected occupations.....	775-7
Wages and salaries, average.....	765-72, 780
— by industry.....	765-72
— by provinces.....	765-6, 769, 780
— in cities.....	766, 769
— in manufacturing.....	765, 767-72
— of farm labour.....	779-80
— on railways.....	801
— legislation re.....	749-54
— minimum, regulations re.....	751-2, 754
— Policy, Fair.....	749
War allowances, veterans.....	348-9
— Graves Commission, Commonwealth.....	353
— pensions, for veterans.....	347-8
— Veterans Allowance Act.....	348-9
— Board.....	139, 348
— services—see "Veterans".	
Warehousing and storage.....	914-5
Water area, fresh, of Canada.....	7
— conservation.....	469-71
— power, available in industries.....	678
— construction of generating facilities, 1960.....	670-3
— ownership and regulation of.....	680-8
— resources, undeveloped and developed.....	663-7
— transport.....	820-42
— facilities and traffic.....	820-38
— financial statistics of.....	834, 838-42
— Government aids to.....	837, 875-6
— revenue from.....	834, 834
— shipping traffic.....	821-5, 827-34
Waters, coastal.....	13-5
— inland.....	9-13
Weather services.....	63-4, 849, 875
Weights and measures, administration of.....	930
— interpretation of.....	xvii
Welfare services, federal.....	326-32, 350-1, 1028

	PAGE
Welfare services, federal-provincial.....	332-8, 1043-4
— for Indians and Eskimos.....	217-8, 220-1
— international.....	342
— provincial.....	339-42, 1048
— veterans.....	350-1
— voluntary.....	346
Wheat, acreage, production and value of.....	499, 500, 502
— Board, Canadian.....	144, 493, 494, 919-20
— exports and imports of.....	907-8, 909-10, 969
— farm income from.....	495
— flour production.....	911
— international statistics of.....	534-5
— marketing of.....	906-11
— prices of.....	499, 521, 907-8
— receipts and shipments of.....	910
— stocks of.....	503
— supply and disposition of.....	907-8, 909-10
Wholesale prices, index numbers of.....	936-9
— trade.....	898-9
Wildlife resources and conservation.....	45-60, 472, 654-8
Wood industries, activity of.....	546-8, 700, 706-12
— products, exports.....	543, 550, 970
— imports.....	550, 972
— research.....	553
— pulp, exports of.....	970
Woods operations.....	545-6
Wool, production and consumption.....	517
Working conditions of employees in manufacturing.....	777-9
Workmen's compensation.....	753, 755, 785-7
— paid by provinces.....	786-7
World areas and populations.....	221-6
— Exhibition, 1967.....	144
— Health Organization.....	175, 177
— metallic mineral and fuel production.....	621-2
— Meteorological Organization.....	175, 177
— newsprint statistics.....	550
— pulp statistics.....	550
— wholesale and retail price indexes.....	939, 942
Young adult criminal offenders.....	445-7
Youth allowances.....	151, 331-2
Yugoslavia, tariff arrangements with.....	999
— trade with—see "Trade by country".	
Yukon Territory, administration of.....	96, 110-3
— allowances for blind persons.....	335
— for disabled persons.....	336
— family.....	331
— youth.....	332
— area.....	7, 30
— births and birth rates.....	251, 257, 258, 264
— creation of.....	70
— deaths and death rates.....	251, 268, 274
— diseases, notifiable.....	323
— education in.....	359, 370, 373
— electric power statistics.....	660, 663, 666-7, 673, 674, 676-80, 688
— fishery products—see "Fisheries".	
— forested area.....	466, 540, 541
— government revenue, expenditure and debt.....	1026-7, 1046-50, 1052
— health services.....	296-8, 300
— hospitals.....	296-8, 313-4, 316-7, 319
— lakes, principal.....	13
— manufactures.....	705, 712
— marriages.....	251, 283
— mineral production—see "Mineral" and "Minerals".	
— mining laws of—see "Mining".	
— motor vehicle and traffic regulations.....	805-9
— mountains and other heights.....	16, 18
— municipalities.....	120, 121
— old age assistance.....	335
— security.....	330
— population—see "Population".	
— representation in the House of Commons.....	82, 88
— roads and highways.....	809, 810, 811-2
— unemployment assistance.....	334
— water power of—see "Water Power".	
Zinc production.....	568, 569, 578, 584-6
— world production of.....	621-2

CANADA

DATE: 140 APR 19 1 10 PM 1983

FEDERAL CAPITAL • INDUSTRIAL CAPITAL
 SAVINGS
 RENT
 COMPLEX AND DIVERSITY BY THE
 DEPARTMENT OF ENERGY, MINES AND RESOURCES
 DIVISIONS AND RESEARCH BRANCH
 FOR THE
 CANADA YEAR BOOK COMMISSION



40

